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ABSTRACT

This guide is designed for Zarma language training of Peace Corps workers in agriculture in Nigeria, and reflects daily communication needs in that context. An introductory section provides background information on the program's objectives and its role in the Nigerian village context. Some useful phrases are introduced here. Subsequent sections focus on specific aspects of the agricultural situation and program: the agricultural cycle (seasons, tools, planting and harvest); soil restoration; gardening; environmental protection and wood conservation; live materials for fencing; tree identification; natural regeneration; improved cookstoves; local health and hygiene issues; volunteer acculturation; and other community activities related to the program. Each section contains information on the volunteer's role in regard to that program aspect, useful related vocabulary and phrases, and a sample dialogue for each of a number of sub-topics. Some technical and local horticultural information is also provided. Vocabulary lists are in English, Zarma, and French. (MSE)

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After stage, volunteers oftentimes suddenly find themselves swept up in a whirlwind of strange languages, mystifying cultures and overwhelming work possibilities. Attempts to approach any of these issues separately is futile; all are ultimately bound together into the wonderful confusion we know as Nigerien daily life.

This manual focuses primarily on language as the tool for gaining a foothold for work as an AFSI or NRM volunteer, but this is also an ideal way to learn about Nigerien culture and see how work and culture reflect each other so closely. By using stories, dialogues, sample lessons, etc., in national language, we hope to cover a variety of learning styles in order to give as many ways as possible to learn and understand village life and work.

The technical material included in this manual is by no means exhaustive, but it should provide a sound base for further research with the added bonus of information in national language. It is also unable to account for the many regional differences found across Niger, but it will be a valuable way to introduce dialogues and gain more specific information about a region and its nuances.

We decided to work on this manual because of our enjoyment of Zarma and Hausa, and our identification of the need for accurate, appropriate technical information in national language. We hope that it fulfills this need and that it will encourage others to identify volunteer needs and act upon them. Feedback is the key to any first-time undertaking such as this, so any comments about the language or technical content will be greatly appreciated.

We received a great deal of assistance from many volunteers who gave us ideas and technical information. We sincerely thank Tim Munley, Joel Wolf, Gretchen Beck, Shannon Johnson, Chris Webster, Diane Choplin, Michael Yarne, Erik Matteo, Lauren Mitchell, Wendy Voet and Djibo Zanzot.

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Irikoy ma booriandi! Jackson Neises JACKSON

Allah shi kiyayi ku! Noelle Smith Noelle

Nigerien rural society is, in many respects, similar to any other culture: knowledge of the language and customs is key to understanding, and helping people here. This book is the latest effort in a continuing process jointly undertaken by Americans and Nigeriens to help you, the American in a small Nigerien village, to shed some light on many rural customs in the context of local language and the work you are doing. As a Volunteer many years ago, I faced these same issues daily. I'm convinced that with this book as a tool to guide you in your life and work in the village, you have the means to transcend many of the cultural and language barriers that were insurmountable to me. I encourage you to use this book to do just that.

Marcia McKenna

Marcia McKenna
APCD/NRM

We come with a difficult mission--enter into a foreign culture and aid the local people in resolving some of their problems. Language is the key to understanding the people; without it one can never truly understand how someone views and thinks about the world. Until we understand the people's sense of time, wisdom, humor, economy, happiness, and God, we will never understand the problems as the people see them. This book is a tool to bring you a little closer to the people you live and work with by way of language. It focuses on some of the technical themes that will be important to your work. The people who wrote the book worked very hard on it. Take advantage of it.

K Patterson

Ken Patterson
APCD/AFSI

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What Is AFSI/NRM?

Peace Corps' focus on appropriate technology and village-based solutions to community problems is often what separates Peace Corps from other more glamorous projects. It is also, however, a very difficult concept to explain in national language. "Helping people help themselves" isn't exactly a common Nigerien sentiment, and it is a challenge to explain it to villagers. For legitimate reasons, villagers don't quite agree when we say we "can't" just bring them grillage or a millet grinder. It remains for us to find the words and phrases to explain ourselves to our eager audience: our villagers.

The Three Goals Of Peace Corps

Vocabulary list

better	boriyandi	ameliorer
to bring	kande	amener
country	labu	le pays
goals	manna	les buts
help	gayan	aider
ignorance	jan ka berey	ignorance
project	prozey	le projet
to teach	cawandi	enseigner
trained/skilled	kan gonda berey	formé/maitrisé
understanding	fahamey	la comprehension

1. To help the people of other countries meet their needs for trained men and women.

   Labu waney gakasinayan weyborey nda alborey cawandiyan fonday ra.

2. To promote a better understanding of the American people on the part of the people served.

   I ma kande fahamay hanno Amerik borey bon Nijer labu izey game ra.

3. To promote a better understanding of other people on the part of American people.

   I ma kande fahamey hanno Nijer labu izey bon Amerik borey kan go fu se.

The Peace Corps goals in and of themselves express the fundamental difference between Peace Corps and other projects. Two of the three goals are completely intangible and not expressed in terms of wells dug, gardens started, etc. Culture and language play as important a role (if not more) than actual "work" goals. And often the Peace Corps focus on language and culture is itself the reason that some projects are more effective and appropriate than more grand-scale big money projects.

Vocabulary list

the bush	saajo	la brousse
darkness	kubey	l'obscurité
goal	manna	le but
help	gaaksinay	l'aide
idea	dabari	une idée
knowledge	berey	la connaissance
lack of	jan	la manque
language	sanni/cinni	la langue
millet stalk	kwaari	le tige
understanding	fahamey	la comperhension
value/worth	hinfani	la valeur

Sample Phrases

Two of our three goals are not related to physical work.	Maana hinka kanandi hinza ra si lamba gabi goy ga.
We came here to learn about Nigeriens and to share American ideas with them.	Iri ka newo ga du ga faham nda Nijer borey nda iri ma du ka iri beray no Nijer borey se.
We are trying to understand you better by living with you and studying your language.	Iri ga du ga faham da aran namey iri go aran kwarey ra.
By understanding you we can do better work together.	Aran fahamey ga no iri ga du ga goy hanno te nda aran.
Seeing new things and hearing new ideas helps people improve their lives and work.	Nda aran di hari tejiyan, nda aran ma du bonferey teji a ga nan aran bafuna ma bori nda goyo ma tonton.
Proverb: A millet stalk that blows across the ground will not be eaten by termites. (i.e. A rolling stone gathers no moss)	Kwaariizo kan ga gungaray dusu s'a di.
Knowledge we bring here will never leave. Money and project do leave.	Berey kan iri kande newo si ban hal abada. Noru nda projey ga ban.
We try to bring "understanding" so people can learn to improve and help themselves without our help all the time.	Iri go ga kande fahamey kan ga nan borey ma ingey bon gakasinay wati kulu.
Learning to do something yourself is better than having someone do it for you all the time.	Boro ma dondon ni bon se bisa boro fo ma te ni se wati kulu.

Words and good ideas can help a village as much as big money projects.	Bon ferey nda berey hanno ga kwara ga mata kan noru ga hin ka ga.
Proverb: The lack of knowing (ignorance) is darker than the night.	Jan ka berey bisa cini kubey.

The Wealth (arzaka) and Power (hini) of Knowledge (berey): A Story

Vocabulary list

advice	yamaryan	le conseil
to choose	suban	choisir
cleverness	caramey	malim
to explain	fahamandi	élucider
fear	humburu	la peur
knowledge	berey	la connaissance
power	hini	la puissance
prosperity	arzaka	la prosperité
to shake one's head	zingi	hocher la tête
to think	mila	reflechir

A Story

Two young men were resting with their old father beneath a large neem tree. As they talked, the father posed a question: If you could only choose one, which one would you pick: intelligence, wealth or power?"	Zanka hinka kan go ga fulanzam miliya nya cire. Fakarey ra I baba te I se hayan fo: "Nda ni ga afo suban wo fo no ni ga za: Berey, arzaka wala hini?"
His youngest son answered quickly. "I would choose wealth, of course. With lots of money I could buy a radio and a motorcycle and pagnes for all the girls! I would be able to provide for my family and give them everything they want."	A ize koda tu a se nda wasi. "Ay ga arzaka suban me. Nda ay gonda noru ay ga porporo nda zara nda radio dey wandiyey kulu se. Ay ga hin ga hari kulu dey almayalo se."
The father nodded and asked his older son the same question. The son thought a bit and spoke: "I would choose power. With power I could be the most important man in the village. Everyone would come to me for advice. Even the gendarmes and soldiers would be afraid of me if I had all the power in the world."	Babo na bon zingi. A na ize ha sanni follanka. Izo mila kaina fo. A ne: "Ay ga hini subane. Nda ay gonda hini boro bobo ga ka ay do ka yamaryan ceci. Sojey nda zandarmey ga hamburu ay nda ay gonda andunya kulu hino."

The father again nodded and became lost in thought. After a few minutes he spoke: "I've heard what you said, but I, myself, would choose intelligence. With all the intelligence in the world I would have the means to obtain both wealth and power for myself. With knowledge one can find ways to create wealth and my family would want for nothing. With intelligence, I would also find power, for the intelligent man is known by all for his wisdom. People seek out and ask advice of a wise man on their own out of respect, not out of fear. Intelligence has within it the roads to all the good things in life.

Babo na l nwo zingi koyne. Alwati kayna banda: "Ay ma han kan ni ne, amma ay bumbo ga berey subane. Nda berey go ay se ay ga du arzaka nda hini. Boro ga hin ga du fondo kan ga nan boro ma du fondo kan ga kande arzaka almiyalo se. I ga hin ka du hini zama carmeykomo gonda dabari. Boro ga ka ay do ga du yamaryan zama a ga'ay berey bey, manti a humburu ay. Berey gonda fonda bobo kan yan ga koy hari hanney do."

The sons recognized the wisdom in the father's words and began to realize themselves the power of knowledge.

Zankey faham I babo sanno se I sintin ga bey kan berey gonda gabi.

Hopefully our villagers will all begin to recognize the value of our words and ideas themselves. They are usually right: We are rich. We could install a pump in the village. We could buy everyone a donkey cart. But if villagers can understand that knowledge and skills themselves can bring benefits to the village, it may help them better understand the volunteers' presence in the village.

Peace Corps Development Theory

Many development catch phrases, such as "sustainability", "appropriate technology", and yes, even "empowerment" (sorry, Gizo), are accurate descriptions of Peace Corps work, but national language is sorely lacking in such vocabulary. Even nebulous phrases about "helping someone to help themselves" mean little unless they are placed in a cultural and verbal context recognizable to villagers.

Vocabulary list

bush	saajo	la brousse
help	gaaksinay	l'aide
ideas	dabari	les idées
to improve	boriyandi	ameliorer
road	fondo	le chemin
to take care of	haggoy nda	prendre soin de
traditional	namu	traditionel

Sample phrases

We want people to learn work that can be done in the village without help from projects.	Iri ga ba borey ma goy dondon kan I ga hin ga te ba prozey gakasinay si no.
There is work which can improve life in the village but is not very different from traditional work. (appropriate technology)	Goy go no kan ga borey bafunay hanse kan si fay gumo nda namu goyey.
We try to bring work here that villagers can do for themselves without a project. (sustainability)	Iri ga kande goyo kan borey ga hin ga te ingey bon se ba da prozey si.
Even if the project leaves, this work can continue because villagers themselves are responsible for it. (sustainability)	Ba nda projey ban, kwara borey ga hin ga konda goyo jina zama i wanno.
We don't want you to do this work to please/satisfy us; do it to learn and improve your village. (sustainability)	Aran hima ga goyo te ga kwara hansearan bon se : manti iri bina kaniyo se.
Only Zarmas really understand how to work with each other. You must make decisions for yourselves. (empowerment)	Zarma borey bumbo ga faham inga wo no gorey. Ingey bumbo hima ga hanse goyo.
Learning to help yourself improve the village is better than an outsider who doesn't know the village trying to work there.	Aran bumbo goyo ga aran kwara hanse ga bisa da yaw ka goy aran se.
I (the volunteer) can be the "road" towards improving the village but it is up to you, the villages, to get up and walk along the road.	Ay ga hin ka aran gakasinay aran bafunay fondey ra, ama aran bumbo kan hima ga tun ga fondey gana.
I didn't come here to give you gifts. Gifts are like air, they disappear in the wind. I came here to provide knowledge that will last. (sustainability)	Ay man ka ne ga aran no kado. Noyan sande haw no. Ay ka ga kande aran se berey kan ga goy.

Role Of A Volunteer

Having a strange American volunteer in any Nigerien village is bound to produce an infinite number of unrealistic expectations and confusion about the nature of their work. For any number of reasons, villagers may have a

skewed perception of the volunteer in the village. Perhaps they had a French project in the village 20 years ago, or they saw some work that another village's volunteer did. It may be difficult to get villagers beyond the point of expecting big money projects during week one in the village, but the role of a volunteer should be clearly explained to the villagers.

In a general sense, the role of a volunteer is rather nebulous:

Volunteer Job Description:

- Community development
- To learn culture and language of the village
- Channel for information between villages, services, etc.
- Share information
- Use village knowledge to aid volunteer resources tech. and financial)

Each volunteer as an individual creates his/her own role in the village as time goes on, but all volunteers may have shared experiences as villagers question them about their presence. The way a village first receives a volunteer may set the tone for the rest of their service.

On the way to the well...

Old woman: Fo-fo, anasara! Mate ni go!
Volunteer: Ungwoya, ay nya. Ifo se ni ga'ay ce "anasara?" Ni s'ay ma bey? Ay gonda ma.
O: Ni gonda ma? Ha, ha, ha, aran ma han kan a go ga ne? A ne ha, a gonda ma!!
V: Ay ma Daouda. Ay go ga goy ne kwara ra.
O: Haba? Yaddin ga ni ga hin ka kand'iri se mashino kan ga heyni duru. Iri ga tabi gumo neo. Koyne iri ga ba pumpi. Haro cendiyan ga dooru!
V: Ay nya, wodini manti ay goy no. Ay jin ga ka neo ga zarma cinni dondon. Ay ga ba ay ma dona kwara gorey. Wodin banda ay ga hin ka goyo te nongo.
O: To, amma ay bonwo ga dooru gumo. Ay no kinnini.
V: Ay manti loktoro. Ni ma koy sekureest do ga'a day. A ga fala.

O: Hi, white guy! How are you?

V: Fine, thanks, my mother. Why do you call me "white guy?" Don't you know my name? I have a name.
O: You have a name? Ha, ha, ha you all hear what he said? He ... has a name!
V: My name is Daouda. I work in this village.
O: Really? Then you can bring us a millet grinder. We suffer a lot here. We would also like a pump. Pulling water is hard!

V: My mother, that's not my work. I first came here to learn Zarma. I want to get used to the village. After that I can work here.

O: O.K., but I have a headache. Give me some aspirin.
V: I'm not a doctor. You should go to the secouriste and buy some. It's cheap.

O: Ay sinda nooru! Ay no dala gu ay ma koy ga'a day.
V: Wallahi, ni go ga ay fargandi nda sanni wodin wone cine. Ifo se aran ga ba ay ma aran no hai fo waati kulu? Ay go dey kwara ra ga aran gaaksinay. Noyan manti gaaksinay no. Ifo se aran ga ba fala waati kulu? Goy hinne no ga hin ka kwara booriandi.
O: To...ay no ni kwayo.

O: I have no money! Give me 25 francs so I can go buy it.
V: Man, I'm really tired of this kind of talk. Why do you all want me to give you something all the time? I'm in this village to help you. Giving things is not help. Why do you want the easy way all the time? Only work can make this village better.
O: Well...give me your shirt, then.

Some villagers will be better at recognizing volunteer work and understanding their presence in the village.

On the way to the well...

Old woman: Fo-fo, Daouda! Mate gahamo?
Volunteer: Ungwoya! Bani samay, walla. Mate zankey?
O: I ga sabu! Mate fu?

V: Fu kulu samay.
O: Mate goyo? Goy fo no ni go ga te sohon kwara ra?
V: To, tali kulu si. Sohon ay go dey kwara ga zarma cinni dondon. Ay si hin ka te goy hanno hala ay man goro kwara ra ga sanni dondon.
O: Cimi dey no. Zarma cinne ba gumo.
V: O-ho, me. Hala ni ga ba ni ma boro bey, ni ma jin ga i sanno dondon.

O: Yaddin dey no. Amma iri kwara sinda machina kan ga heyni duru. Iri go ga tabi gumo. Ni ga hin ka'a konde a fo?
V: Walahi, ay si bey. Kala suru. Kala ay ma fakare nda MaiGari. Ay ma sintin nda goy kaina. Wodin banda ay ga sambu goy beeri yacine. Machina ga cada gumo. A ga tin. Kaina kaina curoiizo ga fitti cinna.

O: Wallahi, ni ga cim, Daouda. Subu izo falan-falan i ga konde. Iri ma hin suru.
V: To, madala. N'dunya ga ba suru.

O: Hi, Daouda! How's your body?

V: Thanks! I'm fine. How are your kids?
O: They are thankful. How's the house?
V: My house is good.
O: How's work? What kind of work are you doing in the village now?
V: No problems. Now I'm just here in the village to learn Zarma. I can't do good work here if I haven't sat here and learned the language.
O: That's the truth. There's a lot of Zarma.
V: Yes, indeed. If you want to know a person, you must first learn his language.
O: That's right. But our village doesn't have a millet grinder. We suffer a lot. Can you bring us one?

V: Well, I don't know. Have patience. Wait until I talk to the chief. I must start with small work. Then I can take on big work like that. A machine is very expensive. It's "heavy" work. Little by little a bird builds its nest. <proverb>
O: That is so true, Daouda! One twig at a time. We should just have patience.
V: Alright. The world needs patience.

African Food Systems Initiative, Natural Resource Management: Explain Yourselves!

The relationship in Niger between the environment and subsistence-level food production remains quite tenuous. AFSI and NRM volunteers are constantly trying to find a delicate balance between promoting increased food production and protecting the fragile eco-system in which all Nigeriens must exist. These are complex concepts to discuss in one's mother tongue, much less in Nigerien national language. The inter-relationship between "the bush" and a farmer's fields is often overlooked in the explanations of specific technologies. The final goal of any AFSI or NRM initiative should be to help villagers learn how they can co-exist with their surrounding environment not only to increase their food production but also to protect diminishing natural resources.

The following story may help villagers and volunteers realize the unavoidable interdependence of their fields with the surrounding environment.

Vocabulary list

animals	almaney	les animaux
fields	fari	les champs
good soil	labu albarkanto	le bon sol
grass	subu	la paille
hardpan	gangani	le sol dur
ideas	dabari	les idées
to improve	boriyandi	ameliorer
lack of	jan	la manque
to move back	ye banda	reculer
problem	tali	le problème
to rest	fulanzam	se reposer
soil	labu	le sol
suffering	tabi	la souffrance
trees	turi nya	les arbres
wild animals	ganji ham	les animaux sauvages

Sample phrases

Sohon aran go ga di han kan labu sintin ka ye banda. Turi iboobo si no. Almaney boobo go no I na turi da subu kulu nwa. Hari si ga kan gumo. Ganji ham si ba gumo. How ga faaru gumo ga labo sambu. Nijer gorey ga sandi gumo sohon. Saajo si ga ma kani sohon. Adamiize kulu ga bey kan saaji si ma kani ingey farey mo si ma kani.

Now you can see that our land has started to deteriorate. There aren't a lot of trees. Animals are destroying all the vegetation. The rains don't come as much. There aren't any wild animals anymore. The wind blows all the time and takes the soil. Life in Niger is hard. The environment is not happy. All people know that if the environment is not happy, their fields are not happy, either.

Aran ma lasabu ga bay hala sajo nda aran farey hiji, aran hima ga hijey wodin halassi. Alborey kulu ga bay kan da wande sinda bani goy kulu no a si hin ga te. A si hin ga izey nanandi. A si hin ka duru. A si hin ka hawru hinna. Nda ni wande sinda bani, ni bumbo sinda bani. Yadinga a ga goy kwara borey kulu se kan sinda dogoney kulu.

You all must think as if the environment and your fields are married and protect their marriage. Everybody knows that if one's wife is sick, she can't do any work. She can't nurse her children. She can't pound. She can't cook food. If your wife is sick, you are sick as well. He works for his whole family without any help.

Ni fari nda saajo mo i hiji ya cine. Hala saajo sinda bani, ni fari mo ga tabi gumo. Kan saajo sinda turi, how ga faaru gumo ga labu albarkante kulu sambu. Hari si tar ga kan saajo kan sinda turi boobo bon. Labu no go ga bu. Nan kan sinda ganji ham sinda alhali mo.

Your feilds and the environment are married like that. If the environment is sick, your field will suffer, too. If the bush is without trees, the wind will blow and carry away all the good soil. The rain will not fall on an area without a lot of trees. The land is dying. Places without wild animals are also without a soul.

Nda ni wande sinda bani, ni ga ceeci a se safari wala ni ga haggoy nda kala a ma du bani. Ni s'a tabandi koyne nda goy fo. Ni si tali te a se. Wodin cine ni ma te ni fari da saajo gamma ra. Ni ma ceeci saajo safari. Ni ma haggoy nda'a kala a ma du bani. Iri projey no ga wanni saajo safari ya cine. Iri faham nda tabo kan go saajo ra sohon. Iri ga wani turi halassiyan. Iri ga hin ga cebe ni se mate kan ni ga te kan ga gangani wi.

If your wife is without health, you will look for medicine or you will take care of her until she is healthy. You don't make her suffer with more work. You don't make problems for her. That is also how you must work between your fields and the environment. You must look for "bush medicine." You must take care of it until its healthy. Our project understands "bush medicine" like this. We understand the bush's suffering. We know how to protect trees. We can show you how to restore hardpan.

Role of Villagers and Government

It may help as well to be able to explain to your villagers where they fit in the grander scheme of Peace Corps and the nature of our work. Most Peace Corps volunteers have similar goals and villagers should understand that there is a method to the work we do and that they play the most important role in fulfilling our project objectives. Without them and their government we would not be here and our work would not be successful. The following paragraphs may help explain this partnership between the volunteers, the villagers, and the government.

Vocabulary list

children	zankey	les enfants
to complete	gasu	completer
food	nwaari	la nourriture
government	gomnanti	le gouvernenment
ideas	dabari	les idées
to improve	boriyandi	ameliorer
to increase	ton-ton	augmenter
living in this world	n'dunya gorey	vivre
matter/subject	hari	le sujet
problems	tali	les problems
to protect	halassi	proteger
to use	anfani nda	utiliser

Sample Phrases

1. Your government asked us to come and work with you because the land is getting more and more tired, and there are getting to be more and more people. The result is that there is often not enough food in the country to feed the people. You know this, too, and we are here to work with you to:

1. Aran labo gomnato na iri ce, iri ma du ga ka ga goy nda aran zama labo go ga farga sohon, nda borey mo go ga ba gumo. Wodin se nwari bobo kan ga hin ga to borey si no. Hari no kan aran bumbo ga bey a ga. Yadinga iri ka no, iri ma du ga goy, ga:

A. Try to find ways to produce more food, or better ways to make sure that there is enough food to eat (examples: rice, rabbits, zai holes, acacia holio)

A. Fondey kan yan ga nan i ma du nwari bobo ceeci. Wala fondey kan yan ga nan i ma bay hala nwari wassante go no.

B. Try to find ways to protect the land, because it is the land that produces food (both the field and the forest). If it keeps getting damaged, the amount of food it produces will continue to go down while the number of people gets greater.

B. Iri ma du ga fondey kan ga nan i ma sajo hallasi za kan labu no ga nwaro te (farey nda sajo margante). Hala labo go ga sara, nwaro kan a ga no ga zabu wati kan borey mo go ga ba gumo (tonton).

2. In working with you, we come and ask you what your problems are and get your ideas about how they can be resolved. Together we'll find a way to address some of those problems, particularly the ones dealing with more food and protecting the land.

2. Nda iri go ga goy kambe nda kambe iri ga hin ga bey sanday kan aran go ga di, wodin banda iri ma bey mate kan aran ga ba iri ma i bonza. Iri kulu (aran nda iri) no ga ceci ga sanday weneyan bonza cere bande, sanday mo hala nwari nda labo hallasiyano.

We are not Nigeriens, and we will not be staying here all our lives, so we think that it is important to "teach you to fish" rather than "give you fish". When we leave we want the knowledge and solutions to stay here as tools for you to use. Bringing tractors, factories, fertilizer and giving them to the people is good for a little while, but it does nothing for your children.

Iri manti nijer boroyan, iri man ka ga goro nijer hal iri fundi me, yadinga iri ga mila kan da iri na aran dondonandi "darbeyan/tamyan" a bisa iri ma aran no hamisa. Hala iri na labo nan, nda iri ye Amerik iri ga ba berey ma goro aran se, aran ma du ga anfani nda. Da i kande aran se farmi masiney nda traktero nda zamani birjo, a ga bori. Amma hari no kan si gay gumo. Yadinga aran ma fangu aran izey ga.

There are many people who don't like work, don't know what would help them , or who want us just to give them something. We are not interested in working with them. We are interested in working with people who want to work to make their lives better--for them and their children.

Borey kan yan si ba goy amma i ga guna iri ma i no hayfo si hin ga anfani nda iri goyo. Iri si hin ka goy nda borey wodini. Iri ga ba iri ma goy nda borey kan ga ba goy. Borey kan ga ba i ma ingey anduniya gorey boriyandi ingey nda i zankey.

Agriculture Cycle

The agricultural rainy season cycle is by far the most important part of villagers' lives, be they commerçants, women, children, religious elders or just average farmers. Knowing the stages of the millet cycle, the tools used in farming, and steps in the preparation of millet for consumption will help you better understand your villagers' lives and your community in general. Just understanding the concept, for example, that for most people the "new year" begins at harvest time will help avoid confusion when talking with someone in October about the past August and having them refer to August as "last year".

Some ways to get to know the agriculture cycle include:

- going to the fields with your villagers and helping to sow, cultivate and harvest;
- asking your chef du village or friend for fields of your own to plant;
- hanging out with women while they are preparing food and observing the different steps.

Understanding as well how important millet is in the lives of the Nigerien population will help you better understand how much people live from hand to mouth, and how people will sell other crops they might have (beans, wheat, vegetables) to buy more millet. And it will help you better understand how devastating a locust attack, poor rainfall year or a bad millet crop can be for villagers.

The Seasons

rainy season (June-September)	kaidea	la saison pluies/ l'hivernage
harvest (October)	heyni wiyan	la récolte
cold season (November-February)	jaw waate	la saison froide
hot season (March-May)	heyni waate	la saison sêche

Tools

donkey/ox cart	torko	la charette
hand-held millet knife	makasu	la faux
hoe	kalma	la houe
long handled cultivater	kumbu	
machete	adda	le coupe-coupe
pick	jiga	la pioche
rope/cord	korfo	la corde
seed holer	kalma	

Rainy Season Terms

to burn	ton	brûler
to clear fields	zoru	
to cultivate/till	far	cultiver
to dig a hole	gusu fansi	faire un trou
farmer	alfari	un cultivateur
field	fari	le champs
to make a hole w/ holer	ka	
millet	heyni	le mil
millet seeds	heyniize	les graines de mil
to plant	duma	planter
to plant seeds	duma	semer
rain	beyna hari	la pluie
rainy season	kaydea/korsalo	rainy season
seed planting hole	bunga	poquet
weeds	subu lalo	les mauvais herbes

GREETING BOX

Oftentimes when you are new to a village or new to an area, people will greet you with "*Mate yaw tarey?*" which means "How's the life of a stranger/visitor?" The appropriate response is (big surprise!) "*Ban'samay.*" After you've been in an area for awhile and started to *dona* (get used to) things, people will say: "*Ni te zarma zenu sohon.*", (You are like an old zarma person now).

Abdou Sanni no

Fo-fo! Mate aran go? Mate yaw tarey? Tali kulu si, wala? To, ay ma Abdou Ay ya alfari no. Ay fun hala Bongu Jinde kan go Tillaberi hare. I ci ay se han kan ay ma ka neo hunkuna no ga aran fahamandi nda Zarma gorey no zama aran si faham nda. To, ay sanno ne.

To, ay ma sintin kaydea waate zama ne Nijer ra heyni ga ti fundi.

Abdou's Story

Hello! How are you doing? How's the life of a visitor? It's fine, right? Well, my name is Abdou. I'm a farmer. I'm from Bongu Jinde in the arrondissement of Tillaberi They told me to come here today to tell you about the Zarma way of life because you don't know. Well, here's my story.

I'll start with the rainy season since here in Niger, millet is our life.

Field Prep/April-May Heyni Waate

blessing	albarka	
to burn	ton	brûler
cows	howey	les vaches
dry season	jaw waate	la saison séche
Fulanis	fulan	les Peuhls
hot (really hot) period	heyni waate	la periode chaude
manure	birji	la fumée
millet stalks	kwaari	les tieges du mil
to mix	tunandi	mélanger
to prepare the fields	zooru	
roots	kaji	les racines
to sweep	habu	baleyer
to uproot	dogu	

Fari goy, farmi iri goy dey no. Heyni waate, fulan borey ga kande almaney ay fari ra ga kuru. I ga birji dan; waato kan ay ga zoru ay ga birjo dan corra nda labu kala a te labu albarkante no.

Farming work, field work, that's our big work. In the dry season, the Fulanis bring their cows to my field to eat the leftover millet stalks. They leave their manure there, then in the field clearing time, I mix the manure with the sand so that I get good soil.

Heyni waate kan wayno ga futu gumo, iri sintin ga zoru. Iri ga heyni kwari ton, iri ma fari hanse ma boori. Iri ga kwaarey kar. Iri ga hangan kala korsalo ma ka.

In the hot season, like when it's reallyl hot, we start to clear the fields. We burn the millet stalks, we sweep the fields and we fix up the fields really well. We work with hoes to remove the stumps. Then we wait for the rain.

June/July- Heyni Dumayan Planting the Millet

to beg	barkar	mendier
breakfast	archirkaray	petite dejeuner
finger	kambe izey	le doigt
fast growing millet	heyni cirey	
hand	kambe	la main
hole	gusu	le trou
long handled hole maker	kalma	
longer growing millet	sumno	
luck	saye	la chance
to make a hole	kar	
to plant	duma	semer
to plant dry without water		
seed planting pocket	bunga	poquet
to sprout	zay	pousser
to start eyes (millet)	mo ka	

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to stick your hand in	dan ni kambe	mettre ta main
Alhamdulilahi. Nda Irikoy ma saye te, kaydea ma tar ga ka. Hala hari ga kan, iri ga koy fari ga di hala labu tay ga boori. Nda a ga sundu kambe fatta kuyan labu ra, a wasa ka duma.		Praise be to God. If God gives us luck, we get the first rain. If we get rain, we go to the fields to see if it was enough. If it reaches one hand measure, we start to plant.
Borey go no kan I ga duma ba haro man ma gumo. Amma borey kulu si bey hala a ga te ya cine. Ay bumbo ga hangan hala haro ma gumo ga duma.		There are some that even if it hasn't rained, they plant anyway. But like this is a gamble. Me, I wait for the first rain. If it's enough, then I plant.
Han fo kan iri ga koy fari ka duma ay wande, Haoua, nda ay izey kulu ga ka ay banda. Ay ga bunga ka nda kalma. I ga ay gana ga dan kambe ize hinza heyni tejiizey bungey kulu ra. I ga'I tamu nda ingey ce. Iri ga sobey ga koy ya cine kala fari kulu ma ban.		The day that we're going to plant, I go to the fields with my wife, Haoua, and our children. I dig holes with a KALMA and they follow behind me. By hand they throw three fingers of millet seeds in the hole and then they cover the hole with sand with their foot. We plant like this until the field is planted.
Nda Irikoy ma yedda, heyni ga zay jirbi hinza ga koy itaachi banda. I ga n'a se heyni buzugu. Hatta-hatta nda haro si tar ga ka, nda a ga gayi gumo, kwara borey kulu ga koy jingarado ga jingar Irikoy se a ma kande hari. I ga te alfatia Irikoy se a ma kande hari.		If God agrees, the millet sprouts after three or four days. They call this "tufted millet." Sometimes if the rain doesn't come early, like if it's a long time before we get rain people go to the mosque to pray to God to bring rain. They ask for God's blessings in a mass prayer.
Kaydea waate, borey kulu pat ga goy. Susubey archirkaray banda ay ga koy fari nda ay izey, Bachirou nda Himu. Iri ga goy kala alula to.		During the rainy season, everyone works. In the morning after we've prayed and eaten break-fast, I go to the fields with my sons, Bachirou and Himu.. We work until the afternoon.
Ay wande, Haoua, nda ay izo Binta ga kand'iri se donu kan zaro to. Iri fari si kala kilometter hinza nda Bongu Jinde. A ga mooru. Wodin se iri ga ne: kaydea goy beeri lokatchi no.		My wife, Haoua, and our daughter, Binta, always bring us donu at noon. Our field is far from the village. It's 3 kilometers from Bongu Jinde. That's why we say: The rainy season is the big work time.
Heyni dumi hinka go no. Heyni cirey go no. A ga tar ga beeri jirbi 75 ga koy jirbi 100 ra. Nda a fo koyne;		There are two kinds of millet. There is heyni cire. It grows fast, in 75-100 days. And sumno, it

sumno. A si tar ga beeri amma a ga te heyni iboobo. A si te kala jirbi 120 ga koy 180 kala a ma hay. Heyni cirey koptey gonda hamni boobo i ga.

doesn't grow fast but it gives a lot of millet. It takes 120-180 days to give a head. Heyni cire has more hairiness on its leaves.

July- First Weeding

to give birth	hay	naître
long-handled hoe	kumbu	
to help	ga	aider
horse's chest	bari gande	la poitrine du cheval
to kill	wi	tuer
to push	tute	pousser
sand	tasi	le sable
short-handled hoe	kalma	
to turn	barey	tourner
weeds	subu lalo	les mauvaises herbes

Handu fo banda, hala Irikoy na konde korsalo hanno no, iri ga sintin ga far. Heyni a ku kaina, i ga n'a se heyni kan na gornyo dabu. Iri ga far nda kumbu ga subu wi kan go heyni ra. A binde iri ga labu tonandi nda how ma du ga furo.

After one month, if God helps us with water, we start cultivating. At that time, the millet has grown a bit (enough to hide a chicken). We farm with a tool called a kumbu. We remove the weeds and we move the soil so it breathes air.

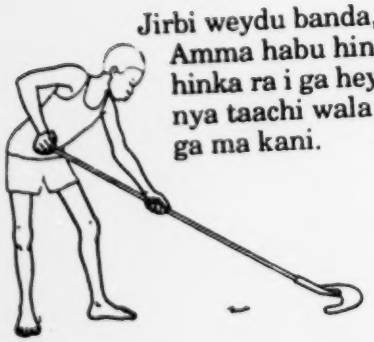
To, handu fo nda jarey banda, jirbi waytaachi-cindi-gu, nda iri man bu, heyno na te kwaari. Nda a ton-ton kaina i ga n'a se a to beri gande. Iri ga sobey ga far.

Well, a month and a half later, like 45 days, if we are alive, the millet has started to have stalks. A little later, it has reached a horse's chest. We continue with the field work.

August- Second Thinning

to break off	pati	
to grill	kukuray	griller
head of millet	jeeni	la tête du mil
immature millet heads	jirmay	
luck	saye	la chance
to spoil	hasara	

Jirbi weydu banda, heyni sintin ga hay. Amma habu hinza ga koy handu hinka ra i ga heyni dogu kala a cindi nya taachi wala igu bunga ra. Heyni ga ma kani.



After sixty days, the millet has started to give a head. But sometime between 3 weeks and 2 months they pluck out some of the young plants until four or five are left. The millet will do well like this.

Jirbi wahakku banda, nda iri te saye, heyni ma mo ka. Iri ga jeeni wi kan man nin jina. A gonda jirimay masangu. Iri ga'a kukuray ga nwa. Iri ga n'a se jirmay.

Around 80 days, if we have luck, the millet has started to have eyes. We sometimes cut a head that isn't ripe yet. We roast them on a fire and eat them. We call this jirmay.

September- Heemar Waate The Harvest

beans	dunguri	les niebes
bundle of millet heads	boko	la bôtes
cart (donkey,oxen)	torko	la charette
granary	barma	la grenier
growth	beeriyan	
hand-held millet cutter	makasu	
harvest	wiyan	la récolte
hibiscus	jisima	l'oseille
next year	yeesi	l'année prochaine
peanuts	damsi/kolanso	les arachides
prosperity	arzaka	la prosperité
to reap	wiyan	
ripe	nin	mur
sesame seeds	lampti	la sesame
sorghum	hamo	le sorgho
to tie	how	attacher
year	jiri	l'année

Handu hinza banda, nda Irikoy na albarka dan, heyni nin ga ban. Alwaato to kan ga'a wi. Heyni wiyan. Iri ga'a wi nda makasu. Iri ga jeeni how ga te bokey. Iri ga'I dan barma ra kan go fari ra. Heyni wiyan banda, hala Irikoy na kande korsalo hanno no, borey kulu ga sabu gumo. I ga ne han kan i ga ba Irikoy ma iri cebe yeesi nda gomni.

Well, after three months, if God give us prosperity, the millet is ripe. It's time to cut the millet. Harvest time. With a hand knife we cut the millet. We tie it up in bundles (bokey) and put them in granaries in the field. After the harvest, if Allah has brought a good rainy season, everyone is very thankful. They will say that Allah should show us next year again in his grace.

Kaydea waate iri ga dan hamo nda dunguri mo. Weyborey iboobo ga dan dunguri, damsi, lamti, da jisima. I ga goy ingey bon se, i ga far ingey bon se.

Also in the rainy season, we plant sorghum and cowpeas. There are a lot of women who plant beans, peanuts, sesame and sorrel (hibiscus). They do the work by themselves and the farming by themselves.

Community Work Parties- BOGU

People will oftentimes organize community work parties (*bogu*) to speed up field work or to help someone who doesn't have enough family members to help him farm. The field owner provides lunch for the people who come and help him cultivate, harvest beans, etc. People work in his field all day. If a young man likes a young woman, he will often organizze his friends to go work at her parents' fields for a day in order to gain favor with them. People are willing to work like this because they know it will increase the attendence at a *bogu* they may hold some day if they also work in other peoples' fields.

October/Kaydea Banda

After the Harvest

animals	almaney	les animaux
bed	dima	le lit
blessing	albarka	
to burn	ton	brû
fence	kali windi	la haie
to finish	ban	finir
to gather up	ku/margu	ramasser
granary	barma	le grenier
hangar	tanda	le hangar
harvest	wiyan	la récolte
things	jiney	les choses
to tie	how	attacher

To, heyni wiyan ga ti yaddin. Amma goyo man gasu jina. Iri ga koy fari ga heyni kwaari margu. Iri ga ye kwara nda kwaari. Borey kulu ga goy nda kwara ra. Borey ga hin ka te windo kaka teji zama kwaari ga zimbi. Iri ga te goy dumi iboobo nda kwaari. Iri ga tanda te, nda dimey da barmey. Iri ga almaney nwaandi nda. Nda hinayan turi si no iri ga ton ga hina. Iri mo ga fay nda fari ra ga labu gayi nodin. A ga te labu albarkante.

Well, that's how the harvest is. But the work is not over. We go to the fields to gather the millet stalks. And we take them home. After the harvest, you'll see everybody has a new fence because there are new stalks everywhere. We do a lot of things with the millet stalks. We make hangars and beds and granaries. We give them to our animals to eat. We burn them if there's no firewood. And we leave them on the fields to make the soil better.

Heyni

Millet

bundle of millet	boko	la bôte
to burn	ton	brûler
calabash	gasu	la calabasse
fatness	naaso	
flour	hamni	la farine
to fry	hina	
fried millet cakes	salla	les galettes

	massa	
head of millet	jeeni	
holes	gusu	les trous
leftover hawru (heated up for breakfast)	dungandi	
millet bran	doobu	le son
millet chaff	du	
millet grain	baali	
millet water	zoori	l'eau de lavage du mil
mortar	humburu	le mortier
mud	botogo	le banco
to pound	duru	
to pound the grain (removing from the stalk)	safa	
to pound the grain (removing the hull)	sasabu	
pounding area	du bangu	
to remove	ka	enlever
the rest of something	cindi	la restante
rice	mo	
round woven mat	fandu	
to sift the hull from the flour (with a *fandu*)	hagay	
to sift the hull from the flour (with a *tamay*)	hagay	
sifter	tamay	le tamis
to wash	nyun	laver
to winnow	faaru	
yams	kudaku	

Kan ay fun fari, ay ga heyni jare Haoua se. A ga koy du bangu gao cire ga'a safa. A ga duru humburu ra kala heyniizo fun duwo ga. A ga'a faaru nda gasu nda tangara ga duwo ka.

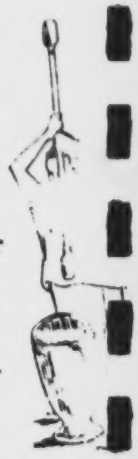
When I come from the field, I bring millet from the granary for Haoua. She takes it to the pounding area under the gao and she pounds it in a mortar. She removes the grain from the stalks and she winnows it with a calabash and a small woven mat in order to separate the chaff.

Iri na fay nda du nodin. Iri si goy nda gumo. Hatta-hatta iri ga du dan furkangey ra, amma a ga konde anwaarey iboobo. I ga du dan kan i ga botogo dibi ga'a sandandi. Hala ni ga gusu fansi kan ga gangani wi, ni ga hin ka du dan i ra. A ga fumbu i ra ga te labu albarkante. I ga duwo ton hala i si goy nda.

We leave the chaff at the pounding area. We don't do a lot with it. Sometimes we put it in pillows, but this brings a lot of bugs. They use it when they work with mud so it becomes hard. If you make zai holes, you can put the chaff in the holes to make the soil better. People burn the chaff if they don't need it.

Faaruyan banda, a ga ye fu nda. Nodini a ga'a sasabu ga doobu ka. A ga nyun da hari. Hari wo ne i ga n'a se zoori. Iri ga feji da hincin hanandi nda zoori ga i naasandi.

When Haoua has winnowed the grain, she takes it home. There she pounds it again to take off the bran. After pounding, she washes grain with water. This water that has been used to wash the grain is called zoori. We give it to sheep and goats so they get fat.



Haoua ga sasabu sambu ga dan tamay ga'a hagay. Kan a doobu kulu ka, a ga almaney nwaandi nda. A mo ga'I naasandi. A ga nwaari hina nda heyni hamni. A ga hawru hina wala a ga te donu. Hatta ga ka hatta a ga te salla wala masa nda. Iri ga nwa.

After pounding the grain she sifts it with a sieve in order to separate the bran. When she has removed the bran she gives it to the animals to make them fat. If she has gotten millet flour she cooks food with it. She makes hawru or she cooks donu with it. From time to time she fries tsalla or massa and we eat.

Iri kwara gonda borey iyyey. Ay no nda ay wande nda izey hinza. Ay nya go no, gabdi no. Ay kaina ma Sani go no. Alasar banda iri ga hawro nwa. Susubey no iri ga nwa dungandi, cini hawru kan cindi. Kan zaro to, iri ga han donu. Borey iyyey ga nwa boko fo da heyni jirbi hinza ra. Hatta-hatta iri ga nwa dunguri wala kudaku wala mo.

We have seven people at our house. There is me and my wife. And our three kids. There's my mother, my old one. And there's my younger brother, Sani. At night we eat hawru. In the morning we eat leftover hawru. At noon we drink donu. With seven people, we use one bundle of millet every three days. Sometimes we eat beans or yams or rice.

Nwaari banda, heyni gonda nafa boobo. Ay no ga'a nera ka'ay jangalo bana. Nda iri wi heyni boobo, ay ga'a nera ga bankaray day ay wande da izey se. Ay ga heyi nera ga day nwaari dumi fo sanda mo wala kudaku wala dunguri.

After our millet food needs, we have a lot of uses for it. Me, I sell it to pay the taxes for my family. If the harvest has been good, I will sell it to buy clothes for my wife and kids. And I sell millet to buy other kinds of food, like rice or yams or beans.

Weyborey ga konde heyni caba do wala hiji do hala i sinda noru. Wala i ga konde hawru wala cecena nodin. Hala i na dunguri wala damsi fari te, i ga hin ka'i nera ga day almaney.

Women will bring millet to ceremonies of baptism and marriage if they don't have money. Or they will bring hawru or beignets there. If they have done bean or peanut fields, they can sell them and buy animals.

Cultural Note

Sometimes a millet head will split in two near the top and grow like that. Zarmas call this "alfaga kambe" (Koranic scholar's hands) because it looks like a prayer leader raising his hands to lead a prayer.

Jaw Waate

Dry Cold Season

calabash	gasu	calebasse
to finish	ban/gasu	completer
humidity/wetness	tay	la humidité
lack of	mongu	la manque
manioc/cassava	rogo	manioc
marshy, low-lying land	bongu	
melon	kaanay	pastèque
proverb	yassey	la proverbe
to reap	wi	
sorghum	hamo	sorgho
yams	kudaku	l'igname

Kan iri na heyni wiyan ikulu gasandi, boro fo-fo ga sambu goy fo. Borey kan gonda bangu fari ra ga hin ka duma dunguri ga bangu windi. Kan haro go ga koosu i ga ka a banda ga duma labu tayante ra. Ba hari si kan i bon ce fo i ga yeendi ma boori. Borey go mo ga te rogo kali nan kan labu na tey ga boori. Batama wodin cine ga hin ka te gasu nda kaanay.

When the millet work is done, some men take other work. Men who have ponds in their fields can plant beans around the pond. As the water dries up they follow it and plant in the wet soil. Even if rain doesn't fall on them once, they will spread out and do quite nicely. There are also men who have manioc gardens in places where the soil is wet. This type of soil can work for calabashes and melons, too.

Yaddin ga, ni di, farmi iri ga n'a se goy beeri lokatchi no. Hala heyni si no, gaham bani si no. Kaydea waate ra, ni si di ba boro fo kwara ra zama i kulu koy fari. Borey go no kan ga koy ziji do kala kaydea na ban. Wodin se iri ga ne: borey si ga goro nan kan sinda alhali.

Thus, you see, why we call field work our big work time. If there is no millet there is no health. During the rainy season, you won't see even one person in the village because everyone has gone to their fields. There are some people that leave the village and stay in the fields until the rainy season is over. That's why we say: people don't stay somewhere without life.

DRS: Soil Restoration

DRS (Defense et Restoration du Sol) is one of the most effective and appropriate technologies available to volunteers in Niger. Using only traditional tools farmers can work in their own fields and improve them markedly. DRS does not only serve to stabilize soil systems and prevent erosion; it also puts food in farmers' granaries by increasing the amount of arable land in their fields.

DRS can be loosely defined as any action taken by a farmer to control water run-off in his field and increase the content of organic matter in the soil. DRS is also considered a form of water harvesting since it concentrates limited rainfall into places where it can be utilized more efficiently. This can occur through digging catchments, dumping manure directly on the field, rock lines, or any number of different methods. ***See pp. 28-35 in *Agriculture and Agroforestry Technical Manual* for more technical information.

There are several commonalities among all the methods of DRS:

- Always start at the top of the slope: Place catchments and rock lines here to reduce the velocity of run-off; catchments at the bottom of a sope will "blow out" if the water is not slowed down.
- Orient catchments/lines along contour of the slope: Situating catchments so that they are perpendicular to the flow of water (contouring) will prevent blow-outs and allow maximum containment of water.
- Place dirt removed from a hole *downslope* from the hole: Dirt placed upslope will fill in the hole during the rainy season and cover up anything that may have been planted there.
- *Always* add organic materials to any type of catchment or rockline: Any catchment will be more productive if organic material is added immediately after digging.

These seem to be the most common problems among DRS beginners. By stressing these points with villagers, almost any type of method used will successfully collect water and begin restoring the soil. The necessity of adding organic material to each catchment cannot be stressed enough. It is effective to do a model site with some holes or catchments with organic matter and some without to show the dramatic difference. Organic material can consist of:

-old seko mats (dala)
-old regular mats (tangara)
-millet chaff (du)
-concession sweepings (zibi)
-feathers (gornyo/curo hamni)
-millet stalks/leaves (heyni kopto nda kwari)
-manure (birji)
-anything that will hold the soil in place as it decomposes

Vocabulary

to add on	ton-ton	augmenter
advantage	riba	avantage
andropogon	subu nya	andropogon
to block/close	dabu	fermer
bowl	tasa	tasse
to break	bogu	casser
to burn	tön	bruler
clay soil	botogo	argile
deep	kuku	profond
to dig	fansi	creuser
to enter	furo	entrer
field	fari	champ
garbage/dirt	zibi	sale/la poubelle
gully	gooru	ruisseau
hardpan	ganganí	terrain dur
help/aid	gaaksinay	aide
hoe, traditional	kalma	pioche locale
hole	gusu	trous
last year	mannan	année passé
leaves	kopto	feuille
line	batta	line
manure	birji	fumier
millet	heyni	mil
millet chaff	du	balle de mil
millet stalk	kwari	tige
to pass by	bisa	passer
pickaxe	jiga	pioche
to pile up	margu	rassembler
to protect	halassi	proteger
to put in place	sinji	repiquer
to put on	dan	mettre
rainy season	kaydea/korsalo	saison de pluie
to remove	ka	enlever
to restore (hardpan)	wi	depenser
rock	tondi	roche
root	kaji	racine
to run/rush	zuru	courir
sandy soil	tasi	sable
seko mat	dala	seko
shovel	pella	pelle
to soak in	sundu	couler
soil	labu	sol
to stop	kayi	arreter
to be useful	hinfa	utile
usefulness	nafa	utilité
water	hari	eau
width	tafay	etre large
woven mat	tangara	natte

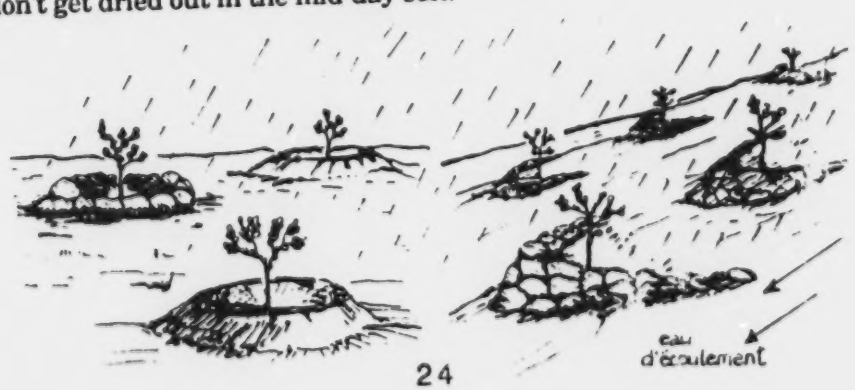
When approaching a DRS project, one must choose the site carefully. For beginners, choose a site with a gentle slope and only marginally degraded soil. Rock-strewn laterite with a 30% grade may be a bit difficult for a first-timer! Also, the most successful reclamation results from catchments which link up high spots in a field; these areas are often small and require minimum effort to complete.

After choosing a site, catchments should be selected which will be most effective. Zail holes alone can only be effective on gentle- almost flat - slopes, whereas large D-catchments combined with zail holes can work on a steeper grade. Rock lines can effectively terrace a field but may be insufficient by themselves as a gully plug.

When laying out the catchments, it is useful to lay out and dig one entire contour, then move down slope and do another contour. It is often difficult to lay out an entire site first because the dirt removed from catchments may flow over onto the drawn out catchments. It also allows one to adjust each line of catchments to each contour as they move down slope.

All DRS activities can be carried out with traditional tools found in any village. Hoes (kalma) can be used for most digging, and old bowls (tasa) can be used to remove soil from the holes. Shovels and pickaxes are obviously easier and more effective, but they are also expensive and often not readily available to many villagers. Lack of these tools should not deter people from trying DRS.

Andropogon grass (subu nya) is a great addtion to any DRS site. Its extensive root system stabilizes soil and is useful for helping catchments and barrages retain their shape during the rainy season. Lines of andropogon can serve as windbreaks as well as stabilize soil. Farmers also like the secondary use of the grass itself for weaving mats. Some farmers may use andropogon in their fields traditionally to mark field boundaries. Andropogon can be successfully propogated by transplanting. This is easiest during the rainy season when the soil is moist and there are a lot of young plants sprouting up naturally in farmers' fields. Simply pull up a few seedlings and carry them to the DRS site, transplanting them along rocklines or at the edge of catchments. Chunks of established mother plants can also be dug out with a pick or shovel and transplanted to a DRS sits. Be sure to do this only during early or mid-August when the soil is thoroughly soaked. Also, transplant during the late afternoon so that they don't get dried out in the mid-day sun.



Useful Phrases

If your field slopes, start digging holes at the top.	Hala ni fari tun bene, ni ma sintin hala bene nda gusey ga ka ganda.
Dig a hole here.	Fansi gusu fo ne.
Dig that hole deeper.	Fansi ne kala a ma ku koyne.
You should make that hole wider.	Ni ma gusu wo ne tafandi.
You should put manure in each hole.	Ni ma dan birji gusu kulu ra.
You should place holes so that water doesn't pass between them.	Ni ma gusu sinji nan kan hari si hin ga bisa bindo ra.
Place soil removed from the hole down slope from the hole.	Labu kan fun gusu ni ma dake gusu ce ganda.
Gather garbage/dirt in the village to put on your fields.	Ni ma ku zibi kwara ra ga konde ni fari ka dan.
You should remove the dirt from the hole.	Ni ma ka labu kan go gusu ra.
You must place holes so that water will enter straight-on and not break the barrage. [contouring]	Ni hima ga gusu sinji danga nda hari ga zuru ka furo a s'a bogu.
From which direction does the water flow?	Haro ga zuru ka fun hala mar ga kaydea waate?
Do you burn the crop residue off your fields?	Ni ga zibo tön kan go ni fari ra, wala?
Does this field produce a lot of millet?	Fari wo ne ga te heyni ibobo, wala?
Did your field use to produce more than it does now or is it the same?	Waatodin heyno ga ba nda haran wo no wala I kulu a fo?
Why?	Ifo se? [lit. For what?]
What causes hardpan in your fields?	Ifo se ni fari ga te ganganí?
Digging holes in your field can make it produce more millet.	Gusey ni fari ra ga hin ga heyni ton-ton a ga.
Did you used to be able to grow millet here where there is hardpan now?	Ganganí neo a te fari waatodin, wala?

When was the last time you could plant millet on this field of hardpan?

Za waati fo no ni na du ga heyni duma ne ganganí ra?

Digging holes can prevent your field from becoming hardpan.

Gusu fansiyan ga hin ka halassi labu kan go ni fari ra; a si te ganganí.

Rushing water will break this hole; the water won't stop.

Hari kan ga zuru ka gusu wo ne bogu; hari si kayi.

Holes concentrate water and keep it for millet to use.

Gusey ga margu hari ka sundu nda heyni ga hin k'a han.

Sample Dialogue 1

Volunteer: I come in peace.
Farmer: Amen, I greet you.

Volunteer: Asalaam alaikum.
Farmer: Amin, alaikum asalaam.

V: Greetings on your work! How are you?
F: Back at ya! I'm thanking Allah.
V: I, too, am thankful. So, your field work is going well, right?
F: Just a little bit. The millet I'm harvesting now isn't as much as I used to get.
V: Why?
F: Because my field has a lot of hardpan that produces no millet.
V: Have you tried to dig holes which can restore hardpan?
F: What holes? I've never seen them. I don't know how.
V: They aren't very hard. If you have a hoe and something to remove dirt you can do them.
F: Really?
V: Really! [lit. I swear to Allah] Come and see the holes I dug in Tchimba's field. [go to Tchimba's field]
V: Do you see this field of millet? Last year it was hardpan.
F: Man, if I hadn't seen it I couldn't believe it.

V: Fonda goy! Mate ni go?
F: Ungwoya! Ay ga Irikoy sabu.
V: Ay mo ga sabu. Mate no, ni fari goy go ga te ga bori, wala?
F: Kaina kaina, dey no. Heyni kan ay go ga wi sohon si to za don wo no.
V: Ifo se?
F: Zama ay fari te ganganí bobo kan si te heyni koyne.
V: Ni man si ka di hala gusey ga hin ka ganganí wi?
F: Gusu fo no? Ay man di'ey ba ce fo. Ay si wanni.
V: I si sandi gumo. Hala ni gonda kalma nda hai fo kan ga ka labu ni ga hin ka te.
F: Haba?
V: Walahi! Ka ga di gusey kan ay kansi Tchimba fari ra. [koy Tchimba fari]
V: Ni go ga di heyni nco, wala? Mannan ganganí konu a te.
F: Walahi, hala ay manna di a, ay si hin ga'a cimandi.

Sample Dialogue 2

Farmer (Karim): I come in peace.
Volunteer (Bob): Amen, I welcome you.

Farmer: Asalaam alaikum.
Volunteer: Amin, alaikum asalaam.

F: Greetings on your work, Bob! How is your body?

F: Fonda goy, Bob! Mate gaham?

V: Back at ya! I'm fine [good health].
F: Why are you digging holes in this hardpan here?
V: I want it to become soil to plant millet.
F: Man, Bob, you don't know what you're doing. Even children know that hardpan can't produce millet.

V: No, I know what I'm doing, really. During the rainy season wind and water will carry soil into my holes. Then I can plant.

F: Say that you swear to Allah!
V: I swear! Holes like this have many advantages. First, they restore hardpan. Also, they produce millet for your family.
F: O.K., Bob, I want that, but I don't have a shovel or pickaxe. Therefore I can't do them.
V: No; even if you have a traditional hoe and an old bowl you can do them.
F: Maybe they won't work in this village.

V: Come and see the holes that I did last year with Idrissa. They all have soil and millet now.
F: O.K., let's go.

V: Ungwoya! Ban'samay, wala.
F: Ifo se ni go ga gusu fansi ganganí ra?
V: Ay ga ba a ma te labu ga duma heyni.
F: Walahi, Bob, ni si wanni. Ba zankey ga bey han kan ganganí si te labu ga duma heyni.
V: Ha'a, ay ga wanni, kai. Kaydea waate how nda hari ga kande labu gusu ra. Wodin banda ay ga hin ka'a duma.
F: Ne walahi!
V: Walahi! Gusy wodin cine gonda riba ibobo. Sintina, I ga ganganí wi. A binde, I ga te heyni ni kwara borey se.
F: To, Bob, ay ga ba ra, ama ay sinda pella nda jiga. Ay si hin ga I te, yaddinga.
V: Ha'a; ba ni gonda kalma nda tasa zenu ni ga hin ka'i te.
F: Hambagar i si te ne kwara ra.
V: Ka ga di gusey kan ay te mannan nda Idrissa. I kulu te labu nda heyni sohon.
F: To, iri ma koy.

Cross-Culture-DRS
When you come to a place someone is working, they may ask you, "Ni go ga goyo gar?" [You're observing the work?]. You should always respond, "Irikoy ma booriyandi" [May Allah make it good.]. This is an appropriate response whenever someone is talking about some job or task.

Calendar for DRS Intervention

DRS can be performed during any season, but there are certain things to consider:

Cold Season (jaw waate)

An ideal time for DRS because its not so hot and working is easier. Also, any catchments dug during this season will have plenty of time to gather air-born soil and debris, so they can be dug nice and deep. Farmers also have plenty of time to experiment a bit and dig some holes during this season.

Hot Season (heyni waate)
This is also a good time to dig sites, but the heat makes it more unpleasant. As the rainy season approaches, however, holes should not be dug as deep so that they have a chance to fill up before the rains.

Rainy Season (kaydea/korsalo waate)
DRS is easiest during this season because the rains soften the soil and make it easier to dig in hardpan. However, farmers spend all their time planting and cultivating, so it's difficult to get villagers to participate. Also, any catchments dug in this season can't be planted until the next rainy season. This is a good time to find andropogon seedlings sprouting in fields and transplant them onto DRS sites.

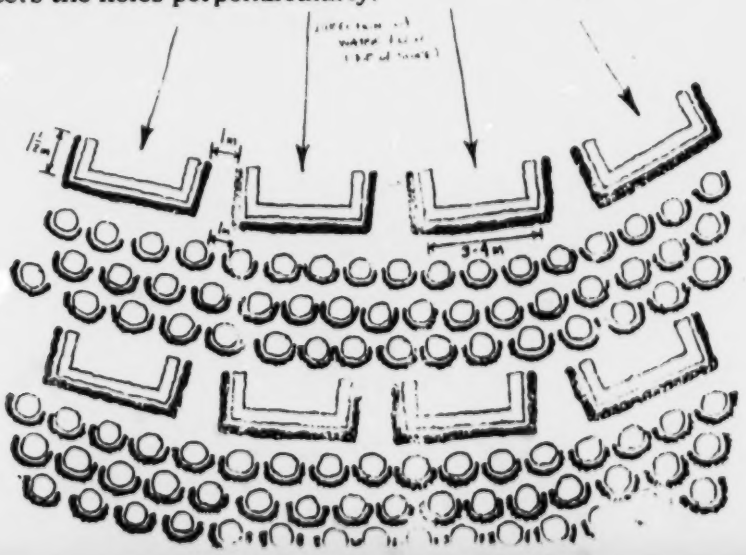
Harvest (heemar waate)
Also a busy season for villagers occupied by the millet harvest, but a good time for DRS due to the availability of organic matter in fields to place in DRS catchments. Residual moisture in the soil will help organic material begin to decompose. The soil after the rains is also still soft and digging is easier.

Part of the utility of DRS lies in the fact that it does not have to be repeated year after year on the same site. Catchments from the year before can be replanted; some may need repairs such as reshaping soil barrages which may have eroded away. Of course, sites should be expanded from year to year. For instance, in a field of zail holes, a farmer could dig in between last year's holes, effectively restoring his entire field by digging and adding organic matter. DRS is rewarding for farmers because they can often see immediate benefits in their fields but they should also realize that these benefits will last into the future as well.

Model DRS Site

This is an example of a model DRS site a volunteer could dig in his or her village. It is also a good basic set-up for farmers just beginning to learn the techniques of DRS. Note the spacing of the holes and the type of holes selected for the site. The alternating rows ensure that the flow of water is properly controlled. Also notice how the holes are contoured so that the water always enters the holes perpendicularly:

(see next page)

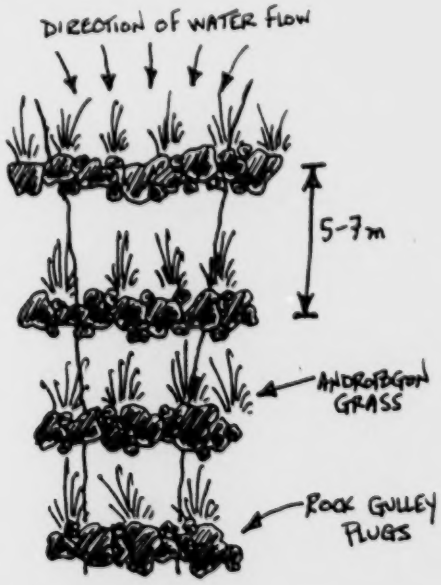


Here are some phrases explaining the implementation of such a site:

This hardpan area has a slight slope. Therefore digging zail holes alone isn't enough, because during the rainy season the holes will fill in.	Gangani wo ne tun hala bene kaina. Yadinga gusey kaina hinne no si te. Kaydea waate hari ga zuru ka gusu dabu.
First we will dig one row of d-catchments, because they are strong enough to stop the water and protect the zail holes behind them.	To, iri ma jin ga sintin nda gusey beeri, zama i gonda gabi kan ga haro kayi. A mo i ga gusey kaina halassi kan go gusey beri ce banda.
After that we will dig three rows of zail holes behind the d-catchments. When you have finished digging put organic matter in all the holes. If you don't put organic matter in the holes they won't produce during the rainy season.	Wodin banda iri ma fansi gusey kaina sorro hinza/batta hinza gusey beri ce banda. Kan ni fansi ka ban, a hima ni ma birji dan gusey kulu ra. Da ni man birji dan, hai kulu si te kaydea waate.
Now you have one row of d-catchments at the top of the slope; after that you have three rows of zail holes behind the one row of d-catchments. Finish digging like this until you have reached the bottom of the slope or there is no more hardpan. One row of d-catchments, then three rows of zail holes.	To, sohon ni gonda gusey beeri sorro fo/batta fo hala bene. Wodin banda ni gonda gusey kaina sorro hinza/batta hinza kan go gusey beeri ce banda. Ni ma sobey ya cine koyne kala ni to ganda wala gangani si no. Gusey beeri sorro fo/batta fo, wodin banda gusey kaina sorro hinza/batta hinza.

Some sites may also require gully plugs and rock barrages. Below are a diagram and some phrases for installing them:

(see next page)



When you want to start constructing rock gulley plugs, start at the top and work until the bottom.

Kan ni ga ba ni ma te tondi barraz ni ma sintin hala bene ga koy ka ganda

Start by carrying the large and small rocks.

Sintinay ni ma kande tondi beeri nda tondi kaina kulu.

Afterwards dig a trench across the gulley.

Wodin banda ni ma fansi gusu kan ga goroiize pati.

Now put the large rocks in the trench until it is full, and then back fill the soil around the rocks.

Sohon ni ma dan tondey beeri gusu ra hala a ma to. Wodin banda ni ma ye ka dan labu tondi cere ga.

Then pile the small rocks on top of the large rocks.

Ni ma daké tondey kaina tondey beeri bon.

Continue to do this until you have reached the end of the gulley.

Sobey ga te tondi barraz ya cine koyne kala ni ma to goroiize me.

During the rainy season plant andropogon grass in front of the rock gulley plugs because andropogon will help the gulley plugs and will hold the soil.

Kaydea waate ni ma subu nya tilam tondi barraz jinay zama a ga tondi barraz gaaksinay a ga labu gayi.

Gardening

Peace Corps-Niger has been involved in a wide range of gardening activities through the years, from large community sites protected by grillage to small private gardens with traditional fencing. Gardening is an important part of the food system in Niger for it can help lessen the impact of a drought or a bad harvest. It is up to each volunteer to decide what gardening system best fits their village. Individual gardens may be the best system where water is not difficult, but places with scarce water resources may find that community sites utilize their efforts most efficiently. This section is intended to help volunteers find out how they can identify the gardening needs in their community and implement them effectively.

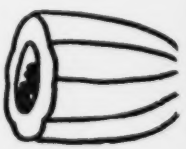
Why garden?

Gardens in Niger usually lie somewhere on the spectrum between gardening specifically to sell produce at the market or gardening for consumption by one's family. Most gardens are a composite of the two, depending on the gardener's resources, market availability, and quality of the millet harvests. Of course, regardless of these criteria, gardening should always be promoted as a way to increase the nutritional content of any family's diet. Peoples' perceptions of gardening will vary widely from region to region, village to village. It is important to be able to discuss these perceptions before beginning a garden project in order to understand the type of garden which would be most appropriate for the village.

advantage	riba	l'avantage
depth	kuyan	le profondeur
garden	kali	le jardin
garden bed	fangal	la planche
vegetables	dumareyze	les légumes

Useful phrases:

Why do people have gardens?	Ifo se borey gonda kaley?
What advantages do gardens have?	Riba fo no go kali teyan ra?
What do people bring to sell at the market?	Ifo no kali-koy ga kande habu ka nera?
How much money do you spend in the market on garden produce?	Noru marje ni ga wi habu ra ka kaliize dey?
Why don't you do a garden yourself?	Ifo se ni si ga te kali ni bon se?
Gardens have life-giving food.	Kali gonda nwaari bafunante.



Good garden food will give your family strength.

Even if you don't go to the market, you can feed your family with good garden food.

Kali nwaari bafunante ga gabi dan ni kwara borey se.

Ba ni si koy habu ni ga hin ka almayaley nwaandi nda kali nwaari bafunante.

Sample dialogue

Volunteer: Fonda goy! Mate gaham?
Woman: Ungwoya! Ban'samay wala.
V: Mate zankey?
W: Zankey ga sabu. Mate hargu?

V: Alwato no! Mate zaro foyan?

W: Tali kulu si, ka day bani.

V: Ay fun kalo do sohon. Jamma nodini go ga ingey fangaley ka. Ifo se ni si kalo te?

W: Hari deyo ra ga ku gumo. Nda haro ga ku wodin cine borey si hin ka kalo te kan ga to habu koyan.
V: Amma kali goy gonda nafa kan manti habu koyan wo no. Ifo no boro ga te nda nwaari bafunante kan go kali ra hala a si koy habu?
W: A ga'a nwa.
V: Yaddin day no. Ba ni ma kali kaina no te a ga hin ka ni zankey nwaandi. Ifo se nwaari ya cine ga boori zankey se?
W: I ga ba ra gumo. A ga kan i se.
V: Nda ifo no koyne? Ifo no a ga hanse ingey gahamey se?
W: A ga gabi dan i se. A gonda bitamin.
V: O-ho, me. A binde, a ga boori hala ni bumbo gonda nwaari ya cine kali ra. Ni si koy habu ka nooru wi.

W: Walahi, ni ga cim. Ama ay si wanni kali goy. Mate ay ga te kan ga dondon?

V: Greetings on your work! How is your body?
W: Back at ya! Really good.

V: How are the kids?
W: They are thankful. How is the cold?
V: It's that time! How did you spend the day?
W: No problems, nothing but health.
V: I'm coming from the garden Many people there are making their garden plots. Why don't you do a garden?
W: The well is very deep. If the water is deep like that people can't garden enough to take things to the market.
V: But gardens have usefulness beyond going to the market. What does a person do with produce in the garden if he doesn't go to the market?
W: He eats it.
V: That's right. Even if you do a small garden it can feed your children. Why is that type of food good for children?
W: They like it. It pleases them.
V: And what else? What does it do for their bodies?
W: It gives them strength. It has vitamins.
V: Yes. And also it's good if you have food like this in the garden yourself. You don't go to the market and spend money.
W: That's so true. But I don't know how to garden. What can I do to learn?

V: Iri ma koy Halima kalo do.
Inga day no kan ga wanni gumo.
Hambagar a ga goyo feri ni se.

V: Let's go to Halima's garden.
She's the one that really knows how to do it. Maybe she can "open" the work for you.

W: To, suba wichiri kan bu iri ma koy ga'a goyo gar.

W: O.K., tomorrow afternoon let's go observe her work.

V: To, Irikoy ma iri cebe suba.

V: Alright. May Allah show us tomorrow.

W: Amin. Iri nda borey kulu.

W: Amen. For us and everybody.

How???

After the decision has been made to garden, the task remains to get down 'n' dirty and begin the real work. For beginning gardeners, many things must be taken into consideration. First, where will they garden? Choosing a good site can make a big difference in a garden's success. Some things to consider:

- good soil (labu albarkante)
- good site (nangu hanno)
- fairly flat site (batama kanante)
- water source (hari)
  - -river? (issa)
  - -well? (dey)
  - -forage pump? (pumpi)
  - -pond? (bangu)
- shade (bii)

other important questions include:

-Who's property is it?
-Is it alright to plant trees here?
-Is the site inundated during the rainy season?

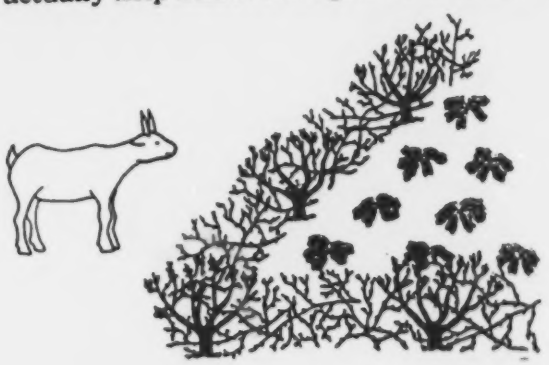
-May fari no?
-A si tali te ga turi nya duma neo, wala?
-Haro ga gayi neo kaydea waate?

Ownership of the property is especially important when considering a community site. Usually the site can still be cultivated with traditional crops during the rainy season and revert to gardening after the harvest. Some people don't want trees planted in their fields if they cultivate millet there. Also, if trees are planted the field owner may decide to claim ownership of them, so establish ownership rights from the beginning to avoid problems later. Often community sites will be situated in the MaiGari's field or a member of his family.

After a site has been selected, the gardener(s) must decide how they will protect it. For individuals, traditional fencing is an appropriate method at first, but some sort of live fencing system should be figured out. By doing small pepinieres every year (100-200 trees is not unrealistic) or by transplanting naturally regenerating seedlings around the garden site during the rainy season, a gardener can start his or her own live fence.

Most individuals who start such a project will follow through and protect the trees when necessary. Community projects, on the other hand, require a different approach. Some villages with scarce water resources will have large community sites with traditional fencing, but it is difficult to maintain and is often insufficient for year-round protection of a young live fence.

Live fencing should be the ultimate goal of any garden site due to its many secondary benefits and village-level appropriateness. But often a large site requires more input at first to become established, such as woven grillage. Efforts have been made to reinforce the process of establishing a live fence, even at a site with grillage; grillage contracts have been written which state that the grillage has been brought solely to protect the live fence. The grillage is slated to be removed after a predetermined number of years after which time the live fence should realistically be established. This requires substantial efforts to follow-up and act upon the guidelines of the contract, but it may actually help achieve the goal of a live fence at a community site.



Vocabulary list

chain link fence	griyaji	le grillage
depth	kuyan	le profondeur
live fence	kali turi windi	la haie vive
millet stalk fencing	kali kaka windi	le tiege
to protect	halassi	proteger
to surround	windi da	entourer
traditional fence	kali sinji	l'haie
vegetables	dumareyze	les légumes

Useful Phrases

What are you going to surround the garden with?	Ifo no ni ga kali windi nda?
How are you protecting your garden?	Mate ni ga te ga ni kalo halassi?
Do you know about live fencing?	Ni faham nda turi kali kan gonda karji, wala?
The grillage is here only to protect the trees.	Griyaz go day neo ga turi windi halassi.

A live fence has more sense of purpose than grillage.	Kali turi windi gonda alhali nda griyaz.

Most gardens are started as soon as the millet harvest has finished. Some sites may not be available for planting due to inundation or unharvested crops on them. Other sites may have to wait until the garden enclosure is finished, which may take longer or shorter depending on the bounty of the harvest and the availability of labor. Some more experienced gardeners may start seed beds or pepinieres of tomatoes, lettuce, cabbage, etc. in bowls or calabashes at their homes to get an early start on the gardening season. This may allow them to get better prices at the market and take advantage of the temperate climate or the cold season.

Start enclosing your garden as soon as the harvest is over.	Ni ma sintin ga kali windi te za heyni wiyan a ban.
Start gardening early; you'll get to the market first and get good prices.	Sintin kali goy da hinne; ni ga jin ga koy habu ka du hayo hanno no.
Collect the crickets in the morning because if the sun gets hot they will fly away. [proverb: early bird gets the worm]	Susubey no I ga do di, da wayna koran kulu I ga deesi.

Planting!

As it becomes time to prepare and plant the site, the gardeners must decide what to put in their gardens. This may depend on whether they are selling or eating the produce. It will also depend on the availability of seeds.

What are you going to plant in your garden?	Ifo da ifo ni ga duma ni kali ra?
Where do you get your seeds?	Man no ni ga du dumiizey?
Are you gardening to go to the market or to feed your family?	Ni ga goy kali ra kan ga koy habu wala ni ga ni kwara borey nwaandi nda?

Gardeners must also decide whether they will direct seed their planches or transplant from a seed bed. Some cultures, such as tomatoes and eggplant, transplant well; others, like carrots or potatoes, don't. By planning ahead how they will plant their planches, gardeners can plan the implementation of the garden according to how it will be outplanted. If

they are planning an intercrop of lettuce and tomatoes, they can start pepinieres in their concessions to outplant as soon as the millet harvest is finished. A planche planned for potatoes, however, would have to wait and be direct seeded when there was time.

Are you going to plant the seeds directly into this planche or transplant into it?	Ni ga dumiizey say fangal ra wala ni ga dumarizey tilam a ra?
What plants transplant well?	Dumarizey fo no ga tilam ma boori?

Preparing the planche properly is very important for a successful garden. Digging deep enough, achieving the proper soil mixture, and adding the right amounts of organic matter (compost, manure, etc.) will pay off for any motivated gardener. Also, learning how to properly space each individual culture within the planche and how to arrange hills for things such as potatoes will increase the productivity and efficiency of their efforts.

Vocabulary list

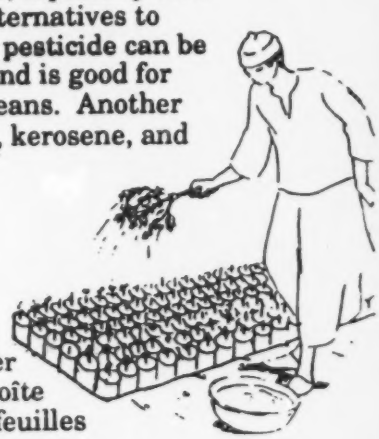
clay	botogo	l'argyle
to crowd	kankam	serée
depth	kuyan	la profondeur
to diminish	zabu	diminuer
garden bed	fangal	la planche
manure	birji	la fumée
to plant	duma	sémer
sand	tasi	le sable
seeds	dumiizey	les graines
to thin	dogu	arracher
to tie	how	attacher
to transplant	tilam	transplanter

Useful Phrases

Make sure you dig the planche down at least one forearm measure deep.	Ni hima ga fangal fansi kala a ku ga to ni kamb kar fo.
Add plenty of manure and organic matter to the soil.	Ni ma birji boobo dan fangal ra.
Your plot should be clay and sand mixed together, not only clay or only sand.	Ni fangal na te botogo nda tasi margante. Ni si ba botogo konu wala tasi konu.
Your plot should be big enough that your plants aren't crowded.	Ni fangalo ma hay da ni dumarayze si kankam a ra.
But your plot should not be so big that you can't reach the middle to water it.	Amma ni fangalo ma si hay gumo kan ni si du ka to a bindi ga'a hanandi.

Level out the plot until its good.	Ni ma fangalo kanandi kala a ma boori.
When your tomatoes get big tie them to sticks so they don't fall over.	Waato kan tomati ga ku, ni ma'I how bundizo ga i ma si kan ganda.
If your lettuce, cabbage or carrots are crowded, pluck some out to diminish them.	Hala ni salati, soo, wala karoti go ga kankam ni ma cindo dogu ka zabu.
You should measure one hand width inbetween lettuce plants to transplant.	Ni ma deedandi kambe mey fo salati nya gamma ra ga'I tilam.
You should measure two hand widths between tomato plants to transplant.	Ni ma deedandi kambe mey hinka tomati nya gamma ra ga'I tilam.

Garden pests can be an expensive problem for gardeners, especially on a village level with scarce resources. There are several alternatives to buying expensive, toxic pesticides at the market. Neem pesticide can be made from seeds and leaves found right in the village, and is good for protecting gardens as well as storing seeds, especially beans. Another inexpensive alternative is a mixture of soap, hot pepper, kerosene, and tobacco.



Neem pesticide

Vocabulary list

bitter	fattu	amer
can	konko	la boîte
leaves	koptey	les feuilles
neem tree	milia nya	le neem
oil	ji	l'huile
palm frond	kongu jakte	les branches du palme
pesticide	safari	le pesticide
ripe	nin	mur
seeds/fruit	dumiizey	les semences
to sift	hagay	vanner
to strain	kokoso	filtrer
traditional broom	habirji	le balais traditionel

Useful Phrases

Both the seeds and leaves of a neem can be used as pesticide.	Milia dumiizey nda koptey kulu ga hin ka te safari.
For neem leaf pesticide, gather many fresh leaves and pound them.	Milia kopto safari se ni ma koptey bogu iboobo margu. Ni ma'I duru.

Soak the pounded leaves in a bucket of water overnight.

Koptey durante ma kani hari bokoti fo ra.

Strain out the leaves and apply the neem water with a neem branch or a traditional broom.

Hari kokoso ga koptey ka; hari say dumariyze ga nda milia soori wala habirji.

There is also neem seed pesticide. Gather a lot of mature seeds. Pounding them is easiest in a traditional mortar.

Milia izey safari mo go no. Margu dumiizey ninante iboobo. Duruyano si faala kala nda humburu.

One and a half tomato cans of pounded seeds should be put in a bucket of water. Soak the seeds and stir them up every now and then. After letting them soak for 6 hours you can apply the water as pesticide But it's best if it "sleeps"overnight before putting it on.

Dumiizey durante tomati konko beeri afo nda jarey I ma dan hari bokiti fo ra. Ga i ma hamno dooru haro ra, day i ma'a tunandi nda gabi alwaati ga ka alwaati. Hijandiyano banda guru iddu no i ga hin ka goy nda safaro. Amma a ga bisa hala a ma kani haro ra kala ni ga ba ga'a dan.

Applying it is easy. Even if you don't have a pump you should find a traditional broom or palm fronds. A person dips it in the pesticide and spreads it onto the plants.

Danyano ga faala. Ba ni sinda pumpo ni ma ceeci habirji wala kongu jakte. Boro ga'a sufu safaro ra no ga say dumarizey se.

Neem seed oil can protect beans in storage. The oil is the same as that in peanuts.

Jiyo kan go miliaizey ra ga dan ga dunguri masango halassi ga gisi. Jiyo kan go a ra ga to wo kan go damsiizey ra.

2 or 3 small tomato cans of oil will work for a 50 kilo sack of beans.

Jiyo tomati konko kaina mey hinka wala ihinza ga te dunguri sakku kan tina ga te kilo waygu se.

Getting oil from neem seeds is the same as peanuts, just like many women already know how to do.

Jiyo kayan nda damsi ji kayan kulu a fo, hari kan weyborey boobo ga wanni.

First pound the seeds in order to remove their hulls and extract the inside grain. The grain should not be crushed during this process.

I ma jin ga milia gurey safa ga banda ka baaley ga. I ma si ta baaley ma tutubu safayano ga.

After taking off the hulls, winnow them to separate out the hulls.

Safayano banda i ma'a faaru ga banda ka.

Choose only the best grains, put them in a mortar and pound them until they're ready and have become powder.

Baali hanney hinne no boro ga fizak ga dan humburo ra ga duru kala a ma nin ga te hamni ciray-ciray.

This powder should be pounded with water until it's sticky with oil beginning to emerge.

Squeeze this sticky substance with your hand and the oil will ooze out into a container until its done.

The bitterness that makes the pesticide work will end 3-4 days after it is put on. Even if you need to cook the beans before 3-4 days are up, you can wash them until the bitterness is washed off.

Hamno din no ni ga duru ga tarse nda hari kala a ma gappal ga te ji kan ga dooru da i na'a kankam.

Gappaley din no ni ga sobey ga kankam nda i kambey jiyo ga dooru jinay fo ra kala a ma ban.

Fatto kan go jiyo ra kan ti safari zaati ga ba haïniize hinza ga koy itaachi safaro danyano banda. Ba aran te dunguro nwaari muradu haïniize 3 ga koy 4 manna to, aran ga'a nyum hinne no fatto ma ban

Tobacco-Soap-Pepper-Kerosene Insecticide: A Dialogue

to be spoiled	hasaraw	se gâter
brown washing soap	safun	le savon marseillais
bucket	so/bokiti	le seau
bugs	annwaarey	les insectes
hot pepper	tonko	le poivron
kerosene	karanzi	la pétrole
to squeeze	kankam	
tobacco	taba	le tabac

Sample Dialogue

Gardener (Hama): Golly, Boureima my garden is all ruined! Bugs are completely eating it!

Volunteer (Boureima): Bummer! What kind of bugs?

G: Ones that eat lettuce leaves.

V: You haven't applied any pesticide?

G: Hah! I don't have any money to go to market and buy it.

V: Well, y'know, there is a pesticide that you can do yourself that's not at all expensive.

G: Really? For Allah's sake you must show me because my work is all being ruined.

G: Walahi, Boureima, ay kalo kulu hasara! Anwaarey go ga'a nwa pat!

V: Jam! Anwaarey fo dumi no?

G: Wo kan ga koptey nwa salato ga.

V: Ni manna dan safari?

G: Kayi! Ay sinda nooru kan ga koy habu ka'a day.

V: To, ni bey, safari fo go no kan ni ga hin ka te ni bon se kan si cada ba kaina.

G: Haba? Irikoy se ni ma cebe ay se zama ay goyo kulu go ga hasara!

V: O.K., first you should buy 25 cfa of tobacco, a small brick of soap, 25 cfa of hot pepper and 50 cfa of kerosene.

G: That costs about 150 cfa.

V: You see? It's not expensive. Then you grind up to tobacco and pepper and put it in a bucket of water. Soak the brick of soap in this water until it dissolves. Put in the kerosene. It should "sleep" overnight.

G: So, what do I do with it?

V: I'm coming. You spread it on your planche with a neem branch or traditional broom onto the plant leaves.

G: This water will work? Do you swear to Allah?

V: I swear! Come, let's go to the table guy now to buy the things. I'll show you now. Seeing it once is better than hearing it a hundred times.

V: To, sintina ni ma day taba dala gu, safun fareejiizo kaina afo, tonko dala gu da keranzi dala wey.

G: I kulu na waranza nwa.

V: Ni di? A si cada. Wodin banda ni ma taba da tonko fifiri hari bogoti fo ra. Ni ma safun hijandi hari wo ne ra kala a manne. Ni ma keranzi dan. A ma kani jirbi fo.

G: To, ifo no ay ga te nda?

V: Ay go ka. Ni ma say-say ni fangalo ra nda milia soori wala habirji dumareyze koptey ga.

G: Hari wo ne ga te? Ne walahi.

V: Walahi! Ka, iri ma koy tabbul koyo do sohon ga jiney day. Ay ga cebe ni se sohon. Diyan fo ba mayyan zongu.

Environmental Protection/Wood Conservation

Many of the activities carried out by Peace Corps volunteers and their villagers are in an effort to conserve and protect the environment. Be this through natural regeneration, the installation of windbreaks, or the protection of endangered animals, the goal is to help people get the most they can out of the land today while protecting it for the future as well. There are many different themes that may come out of this subject, several of which are raised in the following discussion. The discussion is not meant to be covered all at once, but perhaps could serve as an opening for dialogues on environmental protection and conservation.

animals	almaney	les bêtes
(wild) animals	ganji ham	les animaux sauvages
blessings	albarka	les benedictions
desert	kogando	le désert
to clear fields for planting	zooru	défricher
to conserve	haggoy nda	conserver
to cut trees	beeri	couper
natural resources	labu hinfani	les résources naturels
fallow	fulanzam	
fight	yanje	la lutte
firewood	hinayan turi	le bois de chauffe
improved cookstove	zamani fema	les foyers ameliorés
live fence	kali turi windi	la haie vive
to plant trees	turi tilam	planter des arbres
to protect	halassi	protéger
traditional medicine	zarma safari	les médicaments traditionnels
windbreak	how kosaray	le brise-vent
woodless construction	fu kan sinda bundu	la construction sans bois

Environmental Protection/Wood Conservation: A Discussion

Hunkuna no iri ma fakare nda iri labu no nda mate kan a go ga ye banda.

Today, let's talk about desertification and how our land is deteriorating.

A. Guna ka di iri kawya windin ta nda batama kan go ga a windi. A ga hima za jiri waranka wo no? A ga hima jiri wey wo no? Mate?
   1. Za don turi nyaney ga zimbi.
   2. Borey man ba gumo ga to sohon cine.

Look around at our village and the area around it. Is it like twenty years ago? Ten years ago? How?

There were more trees then.
There weren't lots of people like there are now.

B. To, da jiri wey ga ka ga ton-ton, iri no iri labu ga hima? Nda jiri waranka ga ton-ton?
   1. Turi si wasa borey se. Labu si to borey kulu. Labu hinfani ga zabu hala i si ba gumo.

Okay, in ten years, what is our land going to look like? What about twenty years?
There's not going to be enough wood. The're won't be enough room for people. There will be fewer natural resources.

C. Ifo se iri labu ga hima tenere sohon?
   1. Hari si ga kan gumo.
   2. Almaney ba gumo labo se. I ga turi nwa nda fari hasarayan te.
   3. Borey si ga haggoy nda turi.
   4. Turi kan i ga wi ba gumo.
   5. I ga turi wi ka fuo cina nda. I ga hinayan te da.
   6. I si ka turi wiyan banda ga turi duma koyne. I si ga tilam.
   7. Kan i ga zooru i ga turi boobo wi ga nonga ka ga heyni duma.
   8. I si fay nda farey ma fulanzam. Nongo si no kan ga heyni duma. I ga nongo falan duma jiri kulu. Labu si du ga fulanzam.
   9. Borey ba gumo sohon. Labu si hin ka to borey kulu.

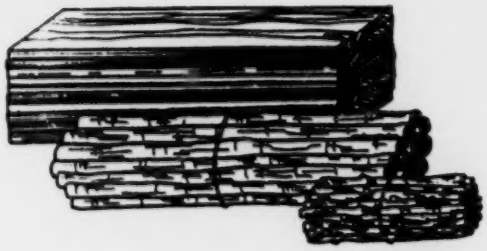
Why is our land more like the desert now?
There's not enough rain.
There are too many animals for the land. They eat trees and they trample on the fields.
People don't take care of trees.
They use too many trees.
They cut trees down for houses and for firewood.
They don't replace trees they've cut down. They don't plant others.
When they clear the fields, they kill a lot of trees to have room to plant millet.
They don't leave the fields to fallow. Because there's not room to plant millet, they plant millet in the same place every year. The land doesn't rest.
There are too many people. The land can't support everybody.

D. Ifo se iri ma yanje ga hasaraw nan? Hinfani fo no go turi ga?
   1. I ga kande beyna hari.
   2. I ga nan labu hasaraw.

Why fight against desertification? What kind of goodness do trees have?
They bring rain.
They prevent desertification.

3. I ga how kosaray nda how si du ga sambu labu.
4. I ga te bi.
5. I ga albarka dan labu ga.
6. Turi boobo gonda ganji ham nda curoize.
7. Borey ga ba turi hinfani.

They stop the wind and prevent the sand from blowing away.
They give shade.
They give the land blessings.
There are wild animals and birds in the forests.
People use the wood.



E. Ifo no borey ga te nda turi?

1. I ga fuo cina nda.
2. I ga turi nya koptey dan foy ra.
3. I ga te zarma safari nda.
4. I ga turi izey han.
5. Almaney ga koptey da izey nwa.
6. I ga du hinayan turi i ga.
7. I ga kali windi nda turey. I ga haw kosaray nda.
8. I ga du deeli i ga.
9. I ga te safun nda turi barji.
10. I ga te tita da hi da dima da humburu da hinji da fu jiney nda.

What do people do with the wood?
They make houses with it.
They put leaves in sauces.
They get traditional medicine.
They eat (drink) the fruit.
Animals eat the leaves and the fruit.
They get firewood.
They make live fences and wind breaks.
They get gum arabic.
They make soap with the bark.
They make chairs and boats and wooden beds and mortars and pestles and things for the house.

F. Ifo no ni ga te ga tenera bonza?

1. Ni ma turi duma. Ni ma turi halassi kan go ni faro ra da kwara ra.
2. Ni ma te almayaley bani fondo. Weyborey ma hangan jiri hinka wala ihinza hala I ga hay koyne. Yaddin ga borey si ba gumo labo ma wasa i se.
3. I ma dan how kosaray ga how gayi nda a ma si labo ku.
4. I ma kalo windi nda turi ga how kosaray..

How do you fight against desertification?
You plant trees. You protect trees that grow in the fields and villages.
You space families. You put two to three years between births. That way they aren't too many people and the land is enough for people.
You use windbreaks to stop the wind and so the sand doesn't blow away.
You make live fences around gardens (to stop the wind).

5. Kan i go ga zooru, i ma fay nda turi kan go fari ra. Ni si'i wi.	While clearing the fields, you leave some trees in the field. You don't kill them.
6. I ma haggoy nda turi.	You conserve wood.
G. Ifo no ni ga te kan ga haggoy nda turi?	How do you conserve wood?
1. Goy nda zamani fema.	You use improved cookstoves.
2. Ni ma borey fahamandi nda zamani fema cinayan.	You teach people how to build improved cookstoves.
3. Ni ma te fu kan sinda bundu.	You build woodless constructions.
H. Ifo se iri ma lasabu suba se? Ifo se iri ma haggoy nda labu hinfani kan go no?	Why think about the future? Why conserve natural resources?
1. Hunkuna nda suba se. Nda iri ma labu hasaraw nan iri ga du riba suba. A ga iri dogon. Weyborey si koy hala nongu moru koyne ga turi ku. Nda iri ga batama halassi, nda iri ga iri labo hanse, iri ga du heyni boobo, iri ga du hari boobo, iri ga du albarka.	Because of today and tomorrow. If we start fighting desertification, we're reap the profits in the future. We're lessen our difficulties. Women won't have to go as far to look for firewood. If we take care of our space, if we improve our country, we will get more millet, we will get more water and we will have more blessings.
2. Boro bandey se. Iri ma nongo hanse iri izey se. Ingey mo hima ga du nan kan ga goro; i ga du labu hinfani. Irikoy no ga bey mate kan iri ga te suba, amma iri hima ga tun ga goy suba se iri bumbo. Iri ma kokari.	Because of those after us. We must improve this place because of our children. They, too, must have a place, and natural resources. Only God knows what tomorrow brings, but we have to give a hand. We have to make an effort.

Proverb Box

Suba se no I ga hankuna hanse.	One prepares today for the sake of tomorrow.
Suba hawru se ni ma kusu nyum cini.	For tomorrow's food you should wash the pot the night before.

Take care of tomorrow today.

Live Fencing

Heavily thorned trees planted close together around the perimeter of a garden are effective as a barrier against animals and wind. In addition to protection, the trees can also provide secondary products if chosen according to people's needs, for example firewood, sauce leaves, gum arabic or construction wood. Some important points to remember when approaching live fencing work are:

- allow those working on the live fence to select the species they want to plant;
- carefully consider the advantages and disadvantages of outplanting trees from a nursery, transplanting naturally germinating seedlings and direct seeding;
- protect young seedlings well against browsing predators;
- plant the trees close together (0.5 to 1 meter);
- prune the trees back continuously to keep the trees small (short) and bushy, therefore effective.

For more information on live fencing, see the *Agriculture and Agroforestry Manual for Peace Corps Volunteers in Niger*, pp. 103-104.

animals	almaney	les animaux
close	maanu/manante	près
garden	kali	le jardin
live fence	kali turi windi kan gonda karji	la haie vive
machete	adda	le coupe coupe
to protect	halassi	proteger
to prune	dumbu bene	tailler
thorns	karji	les épines

Useful Phrases

Turi fo no iri ga kalo windi nda?	What kind of tree are we going to plant around the fence?
Ifo no iri ga te kan ga turiize halassi?	How are we going to protect the trees?
Iri hima ga i duma cere cere ga, i ma du ga beri cere bande.	We must plant them close together so that they grow together.
Iri ma'I dumbu bene waati kulu.	We have to always prune the trees.
Turi kambey bibiri cere ga, almaney ma si du ga furo.	We have to weave the branches so they grow together and animals can't enter.

Niger Live Fencing Species

Latin name	Local name	Advantages	Disadvantages	Other uses
Acacia Nilotica	bani/birsi	fast growth rate; can form solid fence in 3 years; nasty thorns; good lateral branching at low level; highly drought resist.	hinders millet and sorghum growth around it	woodlot; windbreak; restoration of degraded land
Acacia Senegal	danga	highly drought resistant; short grabby thorns		produces gum arabic; firewood; charcoal;
Acacia Seyal	sacirey	fast growth; transplants well; good for clay soil; nasty thorns; drought resistant.		gum arabic; fire wood
Proposis Juliaflora	sayel beero	fast growth rate; sharp, goat-deterring thorns	attracts nematodes which can damage many garden crops; poisonous thorns which can cause painful swelling of feet for up to a month; prone to damage by goats; not as drought resistant as some others during outplanting	woodlots; restoration of degraded lands; soil stabilization
Euphorbia Balsamifera	barre	needs little water; propagated by cuttings rather than lengthy pepiniere; quicky installed: full fence takes only a day	hinders millet/ sorghum close by; not goat-proof itself, needs dead or live thorn fence in front of it; does not break wind in garden site like good live fence should	dune stabilization Note: Best used as a temporary enclosure to protect garden and young live fencing while it is getting established.
Ziziphus Mauritiana	darey	fast growth rate; economically valuable fruit; horrific thorns	takes up to 40 days to germinate in pepinieres and does **NOT** outplant well; attracts birds which, if not deterred, could damage crops	restoration of degraded lands; windbreak Note: This species is universally preferred by farmers as a boat barrier because of its sharped thorns.

The methods for implementing a live fence will vary according to regional environmental conditions, village level resources and individual garden needs. An individual gardener with a private garden site may be unable to buy plastic pots and maintain a large pepiniere during the dry season, but he may be able to transplant naturally-germinating seedlings from his field to his site as a live fence. A gardener in a region with lower rainfall may not be able to find enough naturally-germinating seedlings to transplant, so he may have to do a small pepiniere.

Transplanting naturally-germinating seedlings into a live fence is an effective, appropriate way of quickly establishing a live fence. Not only does it require no initial input of materials or labor by the gardener, but the naturally-germinating seedlings will be heartier than seedlings grown in a pepiniere. Tim Munley of AFSI Torodi had these suggestions for implementing such a fence:

1) Find a place in a field where seedlings are starting to sprout and take care not to cultivate them out until they are big enough to transplant.

2) In August when the topsoil has been thoroughly soaked, prepare the garden site to be outplanted by digging a trench along the perimeter and water it the day of outplanting.

3) Wait until the afternoon (wiciri kambu) to do the actual outplanting. Go to the field, carefully uproot the seedling and its root ball, and transplant it into the trench.

4) Water the transplants until the next rain comes. After that they should be able to fend for themselves.

This method may be particularly effective for farmers with manioc gardens that are well-protected and often in areas with water-retaining soil in which a young tree can get a good strong start.

Some species, such as *Zizyphus Mauritiana* don't transplant well and may do better by direct seeding at the live fence site. This method leaves the gardener at the mercy of the germination rate, but it may be a good, low-impact way for a farmer to get a head start on a live fence.

Handy Phrases

garden	kali	le jardin
live fence	kali turi windi	la haie vive
nursery	pepinyero/leyda do	la pepinière
rainy season	kaydea	la saison de pluie
seedling	turi izey-teji	la jeune pousse
to soak	hijandi	mouer
transplant	tilam	transplanter
to water	hanandi	arroser

You can pull up trees sprouting in your fields to transplant at your garden	Ni ga hin ka turi izey-teji kan go ni faro ra dogu ga'I tilam ni kali windi yano se.
Trees like this are stronger than ones in a pepiniere. Also, it's easier than pepiniere work.	Turi ya cine gonda gabi nda pepinyero wo no. A bindo, a ga faala nda pepinyero goyo.
From the time the rains start, you should protect the young seedlings until they reach transplanting.	Za kaydea sintin ni ma turi izey-teji halassi hala i ma to tilamyan.
You should wait to outplant until the water has soaked in a lot and has made the soil wet.	Ni ma hangan ka'I tilam l.. la haro ma sundu gumo ga labu tayandi.
On the day that you will outplan' them you should water the hole.	Han fo no kan ni ga'I tilam ni ma gusu hanandi.
Outplant the trees in the late afternoon when the sun isn't strong.	Wiciri kambu no kan wayna si ga koran ni ma'I tilam.
Water the outplanted trees until it rains on them once. Then you can leave them alone.	Ni ma turi tilamante hanandi kala beyna hari ma kan i bon ce fo. Wodin banda ni ga hin ka fay nda ingey.

Starting a live fence: a dialogue

Gardener (Mamane): Fo-fo, Bill. Mate ni go?	G: Hello, Bill. How are you?
Volunteer (Bill): Ungwoya! Samay dey no.	V: Back at ya! I'm well.
G: Manti ni ne hunkuna no iri ga hin ka sintin ay kalo turi windi yano?	G: Didn't you say that today we can begin to make my garden live fence?
V: O-ho, mey. Ni di nan kan turi izey-teji ga zimbi ni fari ra, wala?	V: Yes, I did. Have you seen a place in your field where there are a lot of young trees sprouting?
G: Oh, bani nyaney no.	G: Yes, acacia niloticas

V: A boori. Ni na gusu fansi kalo ra kan se iri ga'I tilam, wala?

G: Ha'a, ay manna.
V: To, iri ma koy ni kalo do sohon, yaddin ga, zama ni hima ga jir ka gusu fansi. Wodin banda iri ga gusu hanandi.
G: Ifo se?
V: Zama iri ga ba haro ma sundu ga boori hala iri ma turiize tilam.

G: To, ay ma ni kubey kalo ra kan zaro to ga sintin tilamyan.
V: To, ni ma gusu fansi zaro ra, amma iri ma si'I tilam kala wiciri kambu. Yaddin ga i si tabi gumo kan wayno go ga koran.

G: Ah, ni ga cim.
V: Nda Irikoy ba, hari ga tar ga kan i bon, zama hala hari ga ka iri hima ga turiize tilamante hanandi han kulu.

G: Haba? To, Irikoy ma kande kaydiya hanno.
V: Amin.

V: That's good. You dug a hole in your garden to transplant them in, right?
G: No, I haven't.
V: Well, let's go to your garden now, then, because you must first dig the hole. Then we'll water it.
G: Why?
V: Because we want the water to soak in well before we transplant the trees.
G: Alright, I'll meet you at the garden to begin transplanting.
V: Well, you should dig the hole at noon, but we shouldn't transplant until late afternoon. Then they won't suffer in the hot sun.
G: Yes, you're right.
V: If Allah wills it, it will rain on them soon, because until rain comes, we must water the transplanted seedlings every day.
G: Really? May Allah bring a good rainy season.
V: Amen.

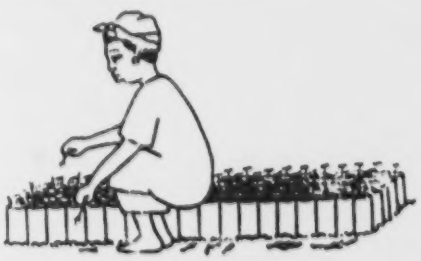
Pepinières

Vocabulary list

ash	bosu	la cendre
clay	botogo	l'argile
garden	kali	le jardin
garden bed	fangal	la planche
knife	zama	le couteau
live fence	kali turi windi	la haie vive
manure	birji	la fumée
to mix	dan corra	mélanger
a measure	mey	la mésure
neem branches	milia soori	les branches du neem
nursery	pepinyer/leyda do	la pepinière
to plant	duma	sémer
plastic pots	leyda	les pots plastiques
to reduce	zabu	diminuer
to remove	dogu	enlever
roots	kaji	les racines
sand	tasi	le sable
termites	dusu	les termites

Useful Phrases

Hala ni ga leydey duma, ni ma kassum birji nesijo mey hinza, tasi mey fo nda jarey, da botogo mey fo nda jarey.	To fill plastic pots, mix together 3 measures of manure, one and a half of sand, and one and a half of clay.
Ni ma fangal ka leydey se.	Make a planche for the pots.
I ma milia koptey wala danji bosu the dan leydey cire ga dusu nan.	Put neem leaves or ashes under pots to prevent termites.
Hala aran ga duma, a ma dumizey hijandi jirbi fo.	Before planting soak the seeds over-night.
I ma leydey konu hanandi habu fo hala I ga dumizey dan i ra.	Water the pots for one week before putting in the seeds.



Dumizey hinka no I hima ga duma leyda ra.	2 seeds should be planted in each pot.
I hima ga turiizey hanandi sorro hinka zaro ra susubey nda alasar.	Water the trees twice a day in the morning and late afternoon.
Nda dumizey zay i ma suban wo kan ga boori nda i kulu, i ma cindo dogu.	When the trees sprout choose the best ones and pluck out the extras.
I hima ga nangu barmey leydey se	Change the position of the pots

hatta-hatta kajey ma si leydey fun ga labo di.

every now and then so the roots don't leave the pot and take hold of the soil.

Nda kajey na labo di mo, aran ma ceeci zama ga'i pati.

If the roots have taken hold of the soil, get a knife and cut them.

Waato kan turiizey to tilamyan, I ma nan hanandiyan han kulu nda I ma dona batama.

When the plants are ready to transplant, stop watering them so they get used to it.

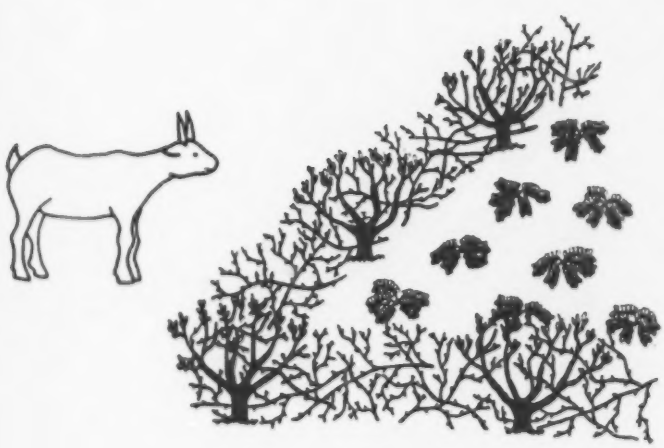
Hala ni ga turiizey tilam kali windi se, ni ma gusey fansi kan ga maanu cere.
together
Metar fo ga boori i bindey ra.
between

If you're outplanting the trees for a live fence, dig the holes close

One every meter is enough
them.

Kali windi turiizey ma maanu cere zama I ga ba ingey kambe ma kubey ga fondo kosoray almaney se.

Live fence trees should be close together because you want their branches to meet and cut off the ways animals can get in.



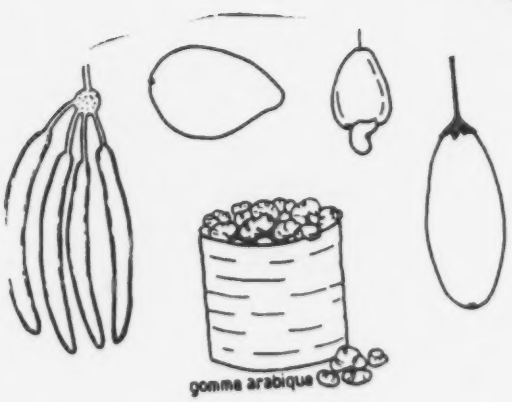
Tree Identification

Trees in Niger are obviously very different from trees in the States, but equally different is people's direct relationship with trees themselves, something we don't often have. While we recognize them for shade and ornamental value, we seldom seek other tree products form the tree itself as Nigeriens do. Your villagers will be able to tell you which tree has good sauce leaves, which tree is best for charcoal, and which one provides traditional medicine for dysentery.

This section, therefore, is meant more as a guide for you rather than information for you to pass on to people. This will be information that your villagers already know, but it may serve as a way to ask them the names and different uses for certain trees. We have also included drawings done by Chris Webster and Diane Choplin to aid in the identification of several common trees in Niger.

Other references for tree identification in Niger include:

- *Arbres et Arbustes du Sahel*; H.J. von Maydell, GTZ 1983.
- *Trees and Shrubs of the Sahel*; H.J. von Maydell, GTZ 1983.
- *Reforestation in Arid Lands*; Fred R. Weber, VITA 1977.
- *Le Sahel Vert, Cours Elementaire, Cours Moyen*; Edition du Ténéré.
- *Plantes Medicinales et Soins au Niger*; Filip Hoornaert, BALD, 1980.



Vocabulary List

animals	almaney	des animaux
to build	cinayan	construire
charcoal	danji bi	la charbonne
drink	han kan ga han	un boisson
fence	kali windi	une haie
firewood	hirayan turi	le bois de chauffe
fruit	turi izey	des fruits
granary	barma	un grenier
gum arabic	deli	la gomme arabique
hut	bukka	une case
leather work	kurru goyyan	le travail en cuir
live fence	kali turi karji	une haie vive
mortar	humburu	un mortier
pestle	hinji	un pilon
poison	naaji	un poison
prayer board	walha	une ardoise
rope	korfo	une corde
sauce	foy	une sauce
seco mat	dala	un seko
seeds	dumiize	des graines
soap	safun	le savon
toothbrush	kosi	une cure dents
traditional medicine	boro bi safari gabi safari namu safari	des medicaments traditionelles
windbreak	how kosaray	un brise vent

Useful Tree ID Phrases

Mate no turi wo ne ma?	What is this tree called?
Hinfani fo no turi wo ne ga te?	What use does this tree have?
Ifo no ni ga te nda?	What do you do with it?
Almaney ga ba turi wo ne?	Do animals like this tree?
Boro ga nwa turi wo ne?	Do people eat this tree?
Boro ga du hinnayan turi a ga?	Do you get firewood from this tree?
Boro ga du namu safarey a ga?	Do you get traditional medicine from this tree?
Ni ga du cinnayan turi a ga?	Do you get construction wood from this tree?

ACACIA ALBIDA

Local name: gao
Zarma name: gao

Seed collection: January-April
Seed treatment: clip with Chinese nail clippers *or* soak in hot water overnight *or* scarify; treat with insecticide before storing

Tree Walk

Volunteer: Alfa, wo ne turi nya fo dumi no?
Alfa: To, wo ne dey, gao nya no.
V: Hinfani fo dumi no go a se?
A: Wallahi, hinfani boobo no a ga..
V: Mate no i ga hinfanin nda?
A: To, sintina, almaney ga nwa gao dumi-ize. I ga koy gao nya cire, i ma nwa dumi-izey kan kan. Da i nwa dumi-ize i ga nasu gumo. Koyne almaney toso da gao nya kopta kan kan ganda i ga te birji.

V: Almaney ga nwa gao nya kopto?
A: Gumo i ga'a nwa. Koyne kaydea ra koptey ga kan labo ra i ma te a se birji

V: Turo mo, i ga hinfanin nda?
A: O-ho, mey! I ga fu jiney te da. Sanda hunburu, hinji da hi da tita. I ga du hinnayan turi a ga. Manti kan gao nya gonda karji i ga kali windi nda almaney sabey se.

V: Walahi, yadin no a gonda hinfani gumo.

Volunteer: Malam, this one, what kind of tree is it?
Alfa: Well, this one is called a gao.
V: Does it have uses?
A: Seriously, it has a lot of uses.
V: Like what is it used for?
A: Well, first of all, animals eat the pods. They come under the gao and wait for the pods to drop. If the animals eat the pods, they get really fat. And the animals leave manure under the trees. That's a good place to plant, under the gao, because there's animal manure and the gao leaves.
V: Do animals eat the gao leaves?
A: Absolutely. They eat them. And during the rainy season, the gao leaves fall. The gao give the soil a lot of blessings. Millet and beans get a good place to grow.
V: What about the wood? Is that used?
A: Definitely. They make household things like mortars and pestles and boats and chairs. It also gives fuel-wood. And since the gao has thorns, they make dead fences with it to protect against animals.
V: Really, the gao has a lot of uses.

FUN FACTS ABOUT THE GAO

The gao is often called the "miracle tree of the Sahel". Unlike most other trees, it loses its leaves during the rainy season giving nutrients to the soil but providing no light competition for field crops. It is also a nitrogen-fixer for the soil. See the *Agriculture and Agroforestry Technical Manual*, pp. 104-105 for more information on the miracle gao.

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ACACIA HOLOSERICEA

Zarma name: karahanga, anasara korkorbey

Seed collection: March-May
Seed treatment: boil in hot water for 1 minute

Tree Walk

Alfa: Fonda kayan, Bob!
Volunteer: Ungwoya! Mate zaro foyan?
A: Samay kwaray! Mate kwara?
V: Ban'samay. To, Alfa, ifo no turi wo ne fandu bon?
A: I ga n'a se karahanga no. Projey fo na duma za jiri wey neo ga taso gayi fondu ago to bon.
V: Haba? Ifo no koyne a ga te?
A: To, inga izey ga hima heyni kan i ga'a duru ga hina. A ga te cecena nda hawru.

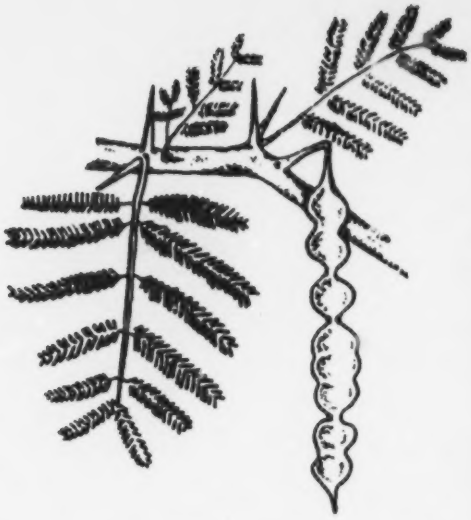
V: Irikoy beeri! A gonda hinfani gumo! Borey boobo ga bey han kan i ga hin ka a nwa, wala?
A: Ha'a, borey boobo si ga'a nwa jina. I man dona.
V: To, nda Irikoy ba iri ga hin ka borey fahamandi nda inga nafa.

Alfa: Welcome. Bob!
Volunteer: Thanks! How was your day?
A: Really good! How's your household?
V: Fine. Hey, Alfa, what is this tree here on the dune?
A: It's called Acacia Holosericea. A project planted them here 10 years keep the sand from leaving the dune.
V: Really? What else does it do?
A: Well, its seeds are like millet when they are pounded and cooked. They make bean cakes and hawru.
V: God is big! That's really useful! Do a lot of people know you can eat it?

A: No, most people don't know. They aren't used to it.
V: Well, if Allah wills it we can explain to everyone its usefulness.

FUN FACTS ABOUT THE HOLIO

The pounded, roasted seeds of the holio can be used like coffee. It's especially good with a bit of honey in it. The project SIM has done extensive work with this tree and its many uses around Maradi. The holio is a native of Australia and is used extensively in Niger for dune stabilization.



ACACIA NILOTICA

Zarma name: bani, birsi

Seed collection: December-February
Seed treatment: clip with Chinese nail clippers *or* soak in hot water overnight; treat before storing

Tree Walk

Volunteer: Turi nya neo bani no, wala Alfa?
Alfa: Wallahi, ni sintin ga Nijer turi bey.

V: To, madalla. Ifo no i ga te da turi wone?

A: To, i ga te kali turi windi da zama a gonda karji. Almaney si du ga furo. A binde i ga how kosarey te. Hal ga ka sohon i ga goy turi izey da turo barji kuro hanseyan fonde ra.

V: Ifo no i ga te da turo?
A: To i ga cinna nda turi kambey, i ga du danji bi a ga, i ga du hinnayan turi a ga.
V: To, a boori.

Volunteer: This one is the acacia nilotica, right, Alfa?
Alfa: Seriously, Bob, you really started to to know the trees of Niger.
V: Alright! What do they do with this tree?
A: Well, with this tree, they make live fences because it has thorns. Animals don't go in the area. They make wind-breaks. And they also do leather work with the stuff from the pods and bark.
V: What do they do with the wood?
A: Well with the wood they build houses and they get charcoal and firewood.
V: That's great.

Traditional medicine recipe

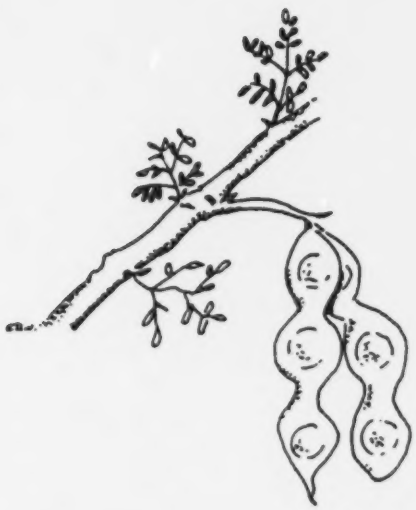
INDICATED FOR STOMACH ACHE

1 teaspoon of ripe nilotica fruit flour
1/2 liter boiling water

Remove the seeds from ripe nilotica pods and throw out the husks. Pound seeds to flour. Put one teaspoonful of the flour in 1/2 liter of boiling water. Let sit for ten minutes. Filter. Drink one glass with a bit of honey or sugar. Repeat several times.

FUN FACTS ABOUT THE NILOTICA

Although the gum from Acacia Nilotica is of lower quality than the Acacia Senegal, supposedly the first gum arabic for trade was taken from the Acacia Nilotica.



ACACIA SENEGAL

Zarma name: danga

Seed collection: November-February

Seed treatment: clip with Chinese nail clippers *or* soak in hot water overnight. Direct seeding works also. Treat well before storing.

Tree Walk

Volunteer: Alfa, ifo no ni go ga han?
Alfa: Deeli no. Ni ga han, wala?
V: To, alhamdulilahi. Turi fo no ga ni du a?
A: Deeli nya no ga ay du a. Danga a ma.
V: Haba? Wo kan i ga kali windi nda?

A: Inga dey no. Ba hinnayan turi da danji bi ni ga du a ga.
V: Ay ga bey kan i ga kali windi nda, amma manti almaney ga koptey nwa?
A: Ooh, i ga nwa amma i si lamba karji ga. Koyne, a ga te safari se. I ga turo barji da koptey zargandi ga han gundu kar da mazina se.

V: Yaddin no. Turi albarkante no.
A: Gumo wone!

Volunteer: Alfa, what are you eating?
Alfa: Gum arabic. Do you want some?
V: Thanks. From what tree is it?
A: It's from the Acacia Senegal.
V: Oh really. The one they make live fencing with?
A: That's it. You even get firewood and charcoal from it.
V: I know you make live fencing with it, but do animals also eat the leaves.
A: Yes,they eat them, but they don't get past the thorns. And it's also used for traditional medicine. You drink the bark and the leaves for diarrhea and cold medicine.
V: That's right. It's a useful tree.
A: Really!

FUN FACTS ABOUT THE SENEGAL

The senegal produces nearly 90% of the commercial gum arabic. The gum is superior to that of any other acacia.

ACACIA SEYAL

Zarma name: sacirey

Seed collection: December-April
Seed treatment: soak in hot water overnight

Tree Walk

Volunteer: Alfa, turo sanda ay ga'a ma bey amma ay dirnyan.
Alfa: To, iri ga n'a se sacirey.
V: O-ho, yaddin no. Ay di kan alman koyey ga izey da koptey no i se i ma nwa.

A: Cimi dey no. Wargayan safari go a ra.

V: Manti i na turi wo ne duma yaharey kalo ga da almaney si furo?.

A: O-ho, inga no. A gonda karji kan ga'a wa da almaney. A te kali yacine yaddin ga.

V: I ga du hinnyan turi a ga, wala?
M: A sinda sikka. Borey ne kan soborey si ba turi dullo. Wodin se turi nda danji bi gonda hinfani. A ga te soboro safari.

V: A boori. Ay si ba soboro ba kaina.

Volunteer: Alfa, this one, it's like I know it but I forgot its name.
Alfa: This one we call Acacia Seyal.
V: Oh, that's right. I saw the herders giveit to their animals who ate the pods and the leaves.
A: That's the truth. It makes the animals get fat (medicine for fatness).
V: And wasn't that the one they planted around the garden so animals wouldn't go in?
A: Yes, that's the one. It has thorns like medicine against animals. Live fencing.
V: Do you get firewood from it?
A: Absolutely. And people say that mosquitoes and bugs don't like the smoke. Because of that, the wood and charcoal are very useful for medicine against mosquitoes and bugs.
V: That's good. I don't like mosquitoes at all.

FUN FACTS ABOUT THE SEYAL
The smoke of the Acacia Seyal is said to be particularly insect repellant.

ADANSONIA DIGITATA

Common name: baobab
Zarma name: kô nya

Seed collection: November-March
Seed treatment: scarification; seeds have a white candy-like coating which must be soaked or eaten off.

Tree Walk

Volunteer: Alfa, hawru wo ne kanu gumo. Ifo no I dan foyo ra kan a kanu yacine?

Alfa: To, wo ne ko foy no.
V: Yaddin no. Ay gonda ko nya beeri ay windo ra.
A: Inga dey no. I faham da za nongo mooru.

V: Ko nya gonda hinfani fo, kan na ka foyo?

A: Gumo-gumo. I ga izey nwa. Almaney ga kopto nwa. A barji mo ga te tangara da takarda.
V: Haba? Han fo i ne ko nya se wo Sahel nya no, wala?.
A: Wallahi, wo ne cimi no. A gonda safari boobo: hemarizo, korni, da kunkuru.

V: A gonda albarka gumo gumo.

Volunteer: Hey, Alfa, this hawru is really good. What did they put in the sauce to make it so good.
Alfa: Well, this is baobab sauce.
V: That's right. I have a big baobab at my house.
A: That's it. You can see it from really far.
V: The baobab, does it have uses other than sauce.
A: Absolutely. People eat the fruit and animals too eat the leaves. Even with the bark you make mats and paper.
V: Really? One day someone called the baobab "the mother of the Sahel".
A: Really, that's the truth. You even get traditional medicine from it for malaria and fever and guinea worm.
V: It really has a lot of blessings.

Traditional medicine recipes:

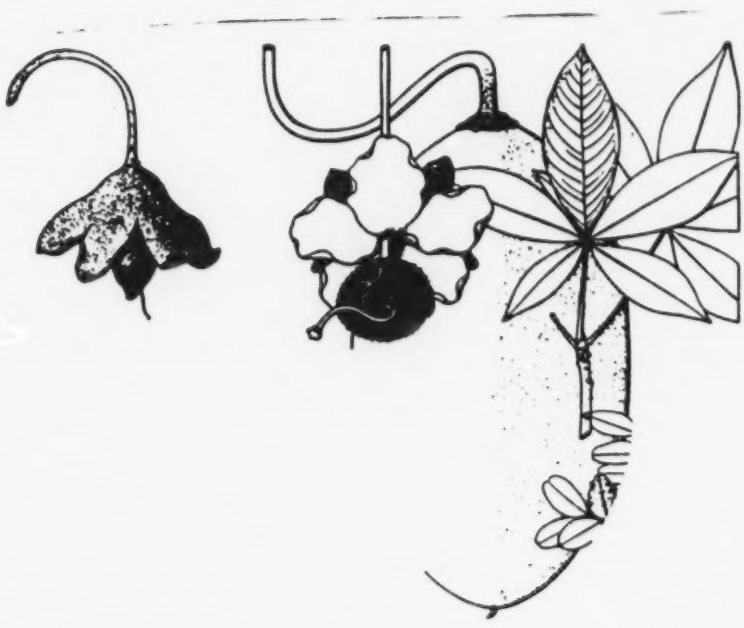
INDICATED TO CALM ASTHMA ATTACKS

30 dried baobab leaves
1 liter of water
the juice of one lemon
20 cubes of sugar OR
4 tablespoons of honey

Boil the leaves for 20 minutes until the water has boiled half away. Add the lemon juice and sugar or honey. Filter.
Dosage: Children 4-10 years: 1 teaspoonful 4 times a day
Adults: 1 tablespoonful 4 times a day

INDICATED FOR DIARRHEA	
4 tablespoonsful of dried baobab fruit flour 1/2 liter of water	Pound the dried fruit to a flour. Put the flour in 1/2 liter of boiling water Give children 1-2 glasses per day until the diarrhea has finished.

Having a maximum attainable age of 1000-3000 years, the baobab is often called the "upside-down tree" or the "mother of the Sahel" and is featured in Antoine St. Exupery's book The Little Prince. It is also believed to receive strength from heaven, while others believe it is the abode of the gods.



ANDROPOGON GAYANUS

Zarma name: subu nya

Seed collection: September-November
Propagation: propagates well by transplanting

Tree/Grass Walk

Volunteer: Alfa, fonda goy!
Alfa: Ungwoya, Bob.
V: Ifo no ni go ga te?
A: Ay go g'ay barma kayi da subu nya.

V: A boori dey no. Ni ga heyni dan a ra wala?
A: O-ho, yaddin no. Ay ga goy boobo te da subu nya danga dala, kali sinji, tanda, da killa.
V: Yaddin dey no. Manti inga no kan ay di na how kosaray ni faro ra?
A: O-ho, inga no. A binde iri ga'a dan iri farey mey ga boro kulu ma du ga inga hirro bey.
V: To, madalla.

Volunteer: Alfa, greetings on your work!
Malam: Greetings to you, Bob.
V: What are you doing?
A: I'm weaving a granary with a grass called andropogon.
V: That's great. Are you going to put millet inside?
A: That's it. I weave a lot of things with andropogon like seko mats and fences and hangars and hats and baskets.
V: Yup. Is that not the one I saw as a windbreak in your field?
A: That's the one, andropogon. And we put it between our fields like a boundary so we know our areas.
V: Super.

FUN FACTS ABOUT ANDROPOGON

In Zarma, the word for andropogon, "subu nya" means mother of all grasses.

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AZADIRACHTA INDICA

Common name: neem
Zarma name: milia nya

Seed collection: November-February
Seed treatment: collect freshly-fallen seeds only. Soak seeds and pulp in water, separate by hand while under water. *Seeds do not store well.* Only swollen, freshly fallen seeds should be used.

Tree Walk

Volunteer: Alfa, fonda fulanzamey!
Alfa: Ungwoya, Bob!
V: Ni go bi hanno ra, fa, walahi!
A: Ni bey? Ay go dey neo milia turo cire. koso mo ne.
V: To madalla. Ay ma ay hinjey kosi, wala?
M: O-ho, mey. Ni bey, Bob, turi gonda hinfani ibobo.
V: Haba? Ifo da ifo no?
A: To, wo kan manti bi da kosi, i ga izey duru ga du ji kan ga dan duguri ra da gangamize si ka ga'i nwa. A binde, i ga ji tayandi ga say-say kali ra nda habirjo ga te safari a se.

V: Haba?
A: Ay ze nda Irikoy. Koyne, i ga hin ga du safun jio ga.
V: Da ifo no koyne?
A: To, i ga dan turi kan ga how kosaray. I ga cinna da. I ga howru hinna da.

V: Gasa, milia gonda hinfani gumo.

Volunteer: Alfa, greetings on your resting!
Alfa: Thanks, Bob, greetings to you!
V: Look at you here in this great shade!
A: Y'know?. Here I am under the neem A tree. Here's a neem toothbrush.
V: Great. I should brush my teeth, right?
A: Right. You know, Bob, this tree has a whole lot of uses.
V: Really? Like what and what?
A: Well, other than shade and toothbrushes, it's an insecticide. You pound the seeds and get an oil. With this oil, you treat beans so the bugs don't eat them. And you also put neem water on plants with a traditional broom as an insecticide.
V: Really?
A: I swear to Allah. And with this oil you can make soap, too.
V: And what else?
A: Well, they use the trees for windbreaks, they build houses with them, and you also get firewood.
V: Really, the neem has a lot of uses.

Traditional medicine recipe

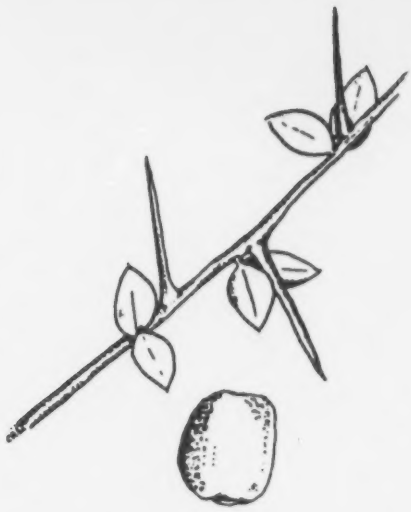
INDICATED FOR MALARIA--to be used as a bath

2 armfuls of leafy neem branches
1 small bucket of water

Boil the branches in water for 10 minutes. Put a half glass of the neem water aside. Use the water hot to bathe once or twice a day. Stand in a large basin. Pour the water on your body with a small bowl. Rebathe 2 or 3 times with the water in the basin until the water is lukewarm. Dry the body and cover up warmly. Drink the half-glass put aside only once every 3 days with a little bit of lemon juice.

FUN FACTS ABOUT THE NEEM

Originating in India, this tree is known everywhere by its Indian name, neem.



BALANITES AEGYPTICA

Zarma name: garbey

Seed collection: October-December
Seed treatment: soak in lukewarm water overnight

Tree Walk

Volunteer: Alfa, ifo no ni go ga han?

Alfa: Garbey izo no ay go ga han. Bismillah.
V: To, allahamdulilahi. Hey, a ga hima dabina kan ga jitti, wala?

A: Yaddin no. Ay go ga koy ga di zamo, a ma du ga ay kalma hanse nda garbey turi. I ga walha te nda, humburuyan, da hinji, mo.

V: To, madala. Ay no garbey izo fo koyne.
A: Inga ne.
V: I ga izey nwa da goy nda turi. Hinfani fo wood.
no go a se wodin banda?
A: Wallahi, yo ga koptey nwa, amma a gonda karji. Yaddin ga turo ga te batama kaliyan se almaney sababu se.

V: Ay ga di garbey nya nan kulu.

Volunteer: Alfa, what are you eating? (you "drink" fruits in Zarma)
Alfa: I'm eating Balanites fruit. Have one.
V: Thanks. Hey, it's like a bitter date, right?

A: That's right. I'm going to the forgeron now because he's fixing my daba handle with balanites wood. It's also good for prayer boards, mortars and pestles.
V: Good. Give me another balalites fruit.
A: Here you go.
V: You eat the fruit and you use the

Does it have any other uses?
A: Well, animals like camels eat the balanites leaves, but the tree has thorns so you can use it as a fence to protect against animals.
V: I really see balanites trees everywhere!

Traditional medicine recipe

INDICATED FOR CONSTIPATION	
2 handfuls of balanites fruit 1 liter of water	Soak the fruit in water for 24 hours. Drink one glass in the evening before bedtime and one in the morning upon waking.

FUN FACTS ABOUT THE BALANITES

The balanites fruit is often called the "desert date" or the "poor man's date". The fruit has been found in the tombs of the 12th century Egyptian dynasty
and has been cultivated in Egypt for approximately 4000 years.

CALOTROPIS PROCERA

Zarma name: saagay

Seed collection: seeds encased in a white milk-weed floss and often propagated by the wind

Tree Walk

Volunteer: Hey, Alfa, turi wodin cine go ay windo ra. Ay ga'a beri waati kulu amma a si bu, a ga ye ga fatta koyne. Han fo ay tamaha kan a si ye ga fatta amma a sintin ga zay jirbi hinka banda koyne.

Alfa: Walahi, turi wo ne, i ga n'a se saagay. A gonda gabi gumo. A wiyan gonda sandey.

V: Ifo no i ga te nda?

A: To, i ga hin ka du tanda ganji a ga. A binde, i ga hamno dan furkanga ra. Amma i hima ga haggoy nda'a wa, a ma si furo ni moiize ra.

V: To, ay ma.

Volunteer: Hey, Alfa, this tree at my house, I always cut it down but it comes back. One day I thought I had killed it but after two days it came back again.

Alfa: Really, this tree, we call it calotropis.It's really resistant and strong. It's hard to kill it.

V: What do you do with it?

A: Well, you can get wood to build a hangar. And you can also put the fibers (hair) in pillows. Just be careful with it because the milk is poison. Be careful with your eyes.

V: Okay, I will.

FUN FACTS ABOUT THE CALOTROPIS

The latex (milky sap) is poisonous. The bark can be used as an aphrodisiac, a laxative and a poison antidote.

COMBRETUM GLUTINOSUM

Zarma name: kokorbey

Seed collection: March-April
Seed treatment: direct seeding

Tree/Shrub Walk

Alfa: Bob, ataay ne..
Volunteer: To madalla. Veru fo no?

A: Ihinzanta no. Yaddin ga a si fartu gumo, a ga kanu dey.
V: Danji bi wo ne, turi fo wo ne no?
A: Kokorbey turi no. A ga di gumo.

V: A-ha. Hanfani fo ni ga te da?
A: To, i ga du hinnayan turi da fu cinnayan turi a ga.
V: To, a boori Bisimillahi. (slurrrrp)

Alfa: Bob, here's tea.
Volunteer: Great. Which glass (round) is it?
A: The third. That way it's not too bitter, just sweet.
V: This charcoal, from which tree is it?
A: From the combretum glutinosum. It really burns well.
V: Oh. Does it have other uses?
A: You bet. You can get firewood and construction wood.
V: That's great. Bottoms up. (slurrrrp)

FUN FACTS ABOUT COMBRETUM GLUTINOSUM

A researcher named Baumer reports that a stem of combretum glutinosum is often used as a calendar in some African villages and that an incision is made it in every year to mark the years.

COMBRETUM MICRANTHUM

Zarma name: kubu

Seed collection: February-April
Seed treatment: direct seeding

Tree/Shrub Walk

Volunteer: Alfa, fonda goy!
Alfa: Ungwoya, Bob, fo-fo!
V: Ifo no ni go ga cinna?
A: To, ay ga buka cinna yowey se.

V: A boori. Turi fo no ni go ga anfanin da?

A: Wo ne i ga n'a se kuku no. A ga te bundu hanno no.

V: To, hinfani fo no go a ga?
A: To, a ga deeli hay. I ga du hinnayan turi a ga.

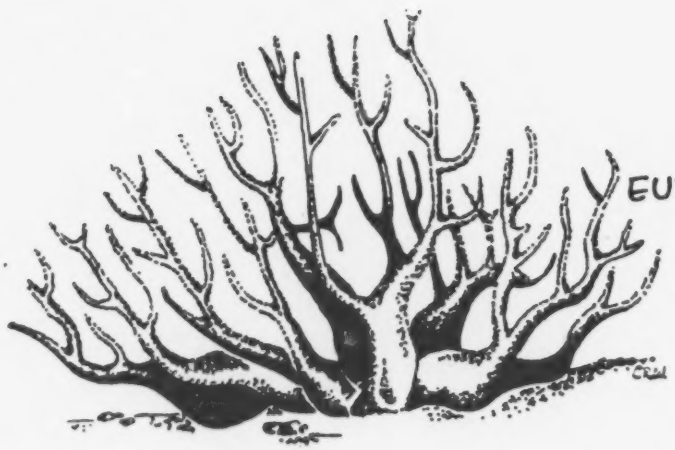
Volunteer: Alfa, greetings on your work!
Alfa: Thanks, Bob, greetings to you.
V: What are you building?
A: I'm making a round hut for when I have guests.
V: That's good. What kind of wood are you using.
A: This one is called combretum micranthum. It makes really good sticks.
V: Yup. Are there other uses for it?
A: Definitely. It also gives gum and you can get firewood from it too.

Traditional medicine recipe

INDICATED FOR THRUSH	
1 handful of combretum micranthum fruit kernels	Pound a handful of kernels into a paste. Apply to the lips and the inside of the mouth morning and night for two weeks.

FUN FACTS ABOUT COMBRETUM MICRANTHUM

Combretum micranthum is often an indicator of extremely unfavorable (no longer cultivable) soils.



EUPHORBIA BALSAMIFERA

Zarma name: barre

Propagation: by cuttings--grows easily

Tree Walk

Volunteer: Hey, Alfa, turi wo ne hima nda gundi no.
Alfa: Ni ga cim. A ga hima nda gundi no. Iri ga n'a se barre.
V: Haba? Anfani fo no go a se?
A: Ize ga duma fondu bon a ma du ga labo da how gayi. A ga hin ka kalo windi.

V: Haba? A go no nan kulu.
A: O-ho. A ga wassi ga beeri. Amma kala ni ma haggoy nda, zamma inga wa ga hima saagay wo no. Naji no. A ma si furo ni moiize ra.
V: To, ay ga haggoy nda.

Volunteer: Hey, Alfa, this plant looks like snakes.
Alfa: You're right, Bob, it is like snakes. We call it euphorbia balsamifera.
V: Really? What uses does it have?
A: Well, we put it on dunes to stop the sand and wind. You can use it as a fence.
V: Really? It's absolutely everywhere.
A: Yup, it's grows really quickly. But you need to be careful because its milk is like calotropis. It's poisonous. Don't let it get in your eyes.
V: Okay. I'll be careful.

FUN FACTS ABOUT EUPHORBIA

Originating in the Canary Islands, the euphorbia has a milk (latex) which is poisonous and harmful to the eyes. It has been used as a poison for criminal purposes, as a fish poison, and also as an insecticide and disinfectant.

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GUIERA SENEGALENSIS

Zarma name: sabara

Propagation: cuttings

Tree Walk

Volunteer: Ni foy bani, Alfa
Alfa: Samay, wala.
V: Ni ga kalo te haran, wala?

A: O-ho, mey.
V: Ifo no ni ga kali sinji nda?
A: Sabaray no ay ga sinji a ga. A ga zimbi ne hare. A ga zay teji yeesi gumo.

V: Ifo no koyne i ga te nda turi wo ne.
A: I ga hin ka te dima nda. Nda borey ga te safari nda.
V: Yaddin ga inga dey no kan ay di nan kulu ga te kopto kwaray.
A: A sinda sikka. A go nan kulu.

Volunteer: How is your day, Alfa?
Alfa: Just fine.
V: Are you going to make a garden this year?
A: Yes, indeed.
V: What are you going to enclose it with?
A: I'll put Guiera Senegalensis around it. There's a lot of it around here and it will grow back well by next year.
V: What else do they do with this tree?
A: They can make beds with it and it can be used as medicine.
V: Then it's this stuff that I see everywhere with white leaves.
A: Without a doubt. It's everywhere.

FUN FACTS ABOUT GUIERA SENEGALENSIS

This shrub is used in many different kinds of garden fences. Manioc gardens and dry season gardens use the branches woven among poles, and women's rainy season gardens often use the branches stuck upright in a shallow trench surrounding the garden.

KHAYA SENEGALENSIS

Zarma name: farey

Seed collection: December-January
Seed treatment: seeds must be fresh

Tree Walk

Alfa: Bob! Fonda kayan!
Volunteer: Ungwoya, Alfa. Fo-fo. Walahi, ay farga.
A: To, goro chezo bon.
V: To, madalla. Alfa, chezo wo ne, turi fo ga no a fun?
A: To, turi wo ne farey no. A gonda gabi gumo. I ga tita da humburu da hi te nda.

V: Hoo, a gonda gabi, fa.
A: Almaney mo ga farey kopto nwa gumo.

V: A-han? Manti inga no ga kan i ga du hangaw naji?
A: Ayyo! Inga no. Walahi, Bob, ni ga bey, fa!

Alfa: Bob, greetings on your coming.!
Volunteer: Thanks, Alfa. Greetings to you. Man, am I tired.
A: Well, come and sit down on the chair.
V: Thanks. Alfa, this chair, what kind of wood is it made from?
A: This wood is from the khaya senegalensis. It's really strong. They make chairs and mortars and prayer boards and boats with it.
V: Wow. It is really strong.
A: And animals like to eat the khaya leaves a lot.
V: Really? And isn't that the one you get arrow poison from?
A: Excellent! That's the one. You really know, Bob.

FUN FACTS ABOUT KHAYA SENEGALENSIS

The wood is most often preferred for furniture and is often referred to as *Dry Zone Mahogany*.

MORINGA OLEIFERA

Zarma name: windi bundu

Propagation: cuttings or direct seeding

Tree Walk

Alfa: Bob, bisimilla.
Volunteer: To, ifo no ni go ga nwa?
A: Kopto no. Ka ga nwa.
V: Ifo ga ti kopto?
A: To, kopto wo windi bundu no. I ga kasum nda albasan, tigadiga da ji da tonko.

V: A ga kanu, wala?
A: Taba ka di.
V: Mmm. Wallahi, a ga kanu.
A: O-ho, mey. Koyne i ga kopto dan foy ra.

V: Haba? Ifo da ifo no i ga te nda?
A: To, almaney bumbo ga kopto nwa. A binde, i ga how kosaray nda.
V: Aha. Manti inga no i na kali te nda kan i how daley a tiksa ga ka kali windi?

A: O-ho, inga dey no.

Alfa: Bob, be my guest.
Volunteer: Okay, what are you eating.
A: It's kopto. Come and eat.
V: What's kopto?
A: Well kopto is moringa leaves. You cook them with oil and onions and spices and then you put kouli kouli or peanut butter on top.
V: Is it good?
A: Taste it and see.
V: Mmm. It's really good.
A: Yup. And you also can put the leaves in sauce.
V: Really? What else do you do with it?
A: Weli, animals eat the leaves too. And you can do windbreaks with them.
V: Oh. And isn't that the one I saw where they'd tied a seco mat to it and it was a fence?
A: Yes, that's the one alright.

Traditional medicine recipe

INDICATED FOR HEPATITIS

1 handful of moringa leaves 1 handful of lemon tree leaves 1 handful of lemon grass 1 liter of fermented grain water	Let either millet, sorghum or rice soak in one liter of water for two days. Put the leaves in this cereal water. Boil for 5 minutes. Add fresh lemon juice and drink often.

FUN FACTS ABOUT MORINGA

The name of the moringa in the Nile Valley is "Shagara al Rauwaq", which means "tree for purifying" because the seeds are pounded into a powder which is then stirred in a bowl for a half an hour then poured into the water container. The leaves are also very rich in Vitamin A, an important micronutrient for the eyes and body.

PILIOSTIGMA RETICULATUM

Common name: camel's foot
Zarma name: kosorey (tree), kossey (fruit)

Seed collection: December-January
Seed treatment: soak in hot water overnight

Tree Walk

Volunteer: Fonda kayan, Alfa. Walahi, aran du heyni, wala?
Alfa: Iri na Irikoy sabu, Bob. Walahi, haran iri du heyni, fa.

V: Ifo no ni na bokoy how nda?

A: To, ay na how nda kosoray barji. A gonda gabi gumo.
V: A-han. A gonda anfani fo, wala?
A: O-ho, mey! Almaney ga izey da koptey nwa. A mo i ga izey da koptey duru ga tayandi ga te hari kan ga han.

V: Inga ne. A gonda bi hanno no.

A: Cimi no.

Volunteer: Welcome, Alfa. You really got some millet!
Alfa: Thanks be to God, Bob. Seriously, this year we had a lot of millet prosperity.
V: What did you tie the bundle of millet with?
A: Well, I tied it with the bark of the camel's foot tree. It's really strong.
V: Oh. Does it have other uses?
A: Definitely. The animals eat the pods and the leaves. And you can make a drink out of leaves and seeds that are pounded up.
V: And look right here. It's gives great shade.
A: That's the truth.

Traditional medicine recipe

INDICATED FOR TOOTH PAIN- while waiting to see the dentist

1 large handful of dried piliostigma pods
1 liter of water

Pour 1 liter of boiling water on a large handful of dried seed pods. Let sit for 10 minutes. Use as a gargle and bathe the mouth. Then spit out.

FUN FACTS ABOUT PILIOSTIGMA

The piliostigma is often referred to as the "camel's foot" because the shape of its leaf.

PROSOPIS JULIFLORA

Common name: mesquite
Zarma name: makka bani
sayelbeero

Seed collection: pick when yellowish and partly dry
Seed treatment: clip with Chinese nail clippers *or* soak in hot water overnight; can be stored for two years

Tree Walk

Alfa: Mate n'dunya gorey, Bob?
Volunteer: Kande suru, Alfa.
A: Walahi, Bob, ifo no du ni ce?

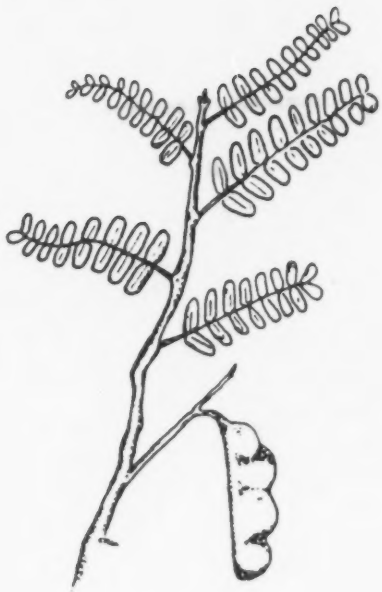
V: Hoo, ay tamu karji lala hunkuna. Ni di ay ce go ga fusu. Karji fo no ga lala of yacine?
A: A banda ga bogu, wala?
V: O-ho!
A: Sayelbeero no, yaddin ga. Ni ga cim. Amma ba a ga lala, a gonda hinfani. I ga du danji bi hanno no a ga. Hinayan turi mo i ga du a ga.
V: A karjo gonda naji, wala?
A: O-ho, wodin se ni ce go ga fusu sohon.

V: Walahi, ay ga fay nda turi wodini.

Alfa: How's life in the world, Bob?
Volunteer: Only patience, Alfa.
A: Wow, Bob, what's wrong with your foot?
V: Man, I stepped on a bad thorn today. It made my foot swell up. What kind thorn is bad like that?
A: It had green bark, right?
V: Yes!
A: Then it's a prosopis juliflora. You're right. But even though it's nasty, it does have uses. It's wood makes good charcoal. It is also used for cooking.
V: Its thorn has poison, huh?
A: Yep, that's why your foot is swelling now.
V: Man, I'm going to steer clear of that tree.

FUN FACTS ABOUT PROSOPIS JULIFLORA

Prosopis is a fast growing species that is difficult to control. Many attempts have been made at using it for live fencing, but it is hard to maintain due to its rapid growth. It has an extensive root system that makes it good for stream bank stabilization.



TAMARINDUS INDICA

Common name: tamarind tree
Zarma name: bossay

Seed collection: January-March
Seed treatment: soak fruit to remove fruit and dry seeds; no pretreatment necessary

Tree Walk

Volunteer: Alfa, barka da meyhow.
Alfa: Barka si ni ibar se.
V: Mate meyhow?
A: Alhamdulilahi.
V: Aran jin ga hari han? (7:00pm).
A: Sohon iri na hari han..
V: To, barka nda hari hanyan.
A: A si'bar ga. Irikoy ma iri cebe suba.

V: Amin.
A: Bossay hari ne. Han.
V: To, madalla. Hey, a ga kanu, fa!
A: Ni ga cim. Inga no iri ga mey feri nda. A ga jaw ban.

V: Wodin banda, ifo no i ga te da?

A: To, i ga tita te nda. A mo i ga du danji bi da turi a ga. Almaney ga kopto nwa.

V: A ga te safari se, wala?
A: A sinda sikka. A ga te kwara safari se. Izey ga korni nda gaham fussuyan safar. I ga izey nwa.

Volunteer: Alfa, greetings on your thirst!
Alfa: Thanks, you don't greet enemies.
V: How's the fast?
A: The fast, thanks be to God.
V: Have you already drunk water

A: Yes, right now we drank.
V: Well, greetings on drinking water.
A: Greetings to you. May God show us tomorrow.
V: Amen.
A: Here, have some tamarind juice.
V: Great. Hey, that's really good!
A: You're right. That's what we break our fast with. It's real medicine for thirst.
V: Other that drinks, what do you do with the tree?
A: Well, we make chairs with it, we get charcoal and firewood. And animals eat the leaves.
V: Do you get medicine from it?
A: No doubt. You get traditional medicine from it. The seeds bring fevers down and reduce swelling. And you can eat the seeds as snacks, too.

Traditional medicine recipe

INDICATED FOR CONSTIPATION	
2 tamarind fruits 1 glass of water 2 cubes of sugar	Pound the two fruits in a mortar. Mix in a glass of hot water and add the sugar. Drink before bedtime. Repeat as needed.

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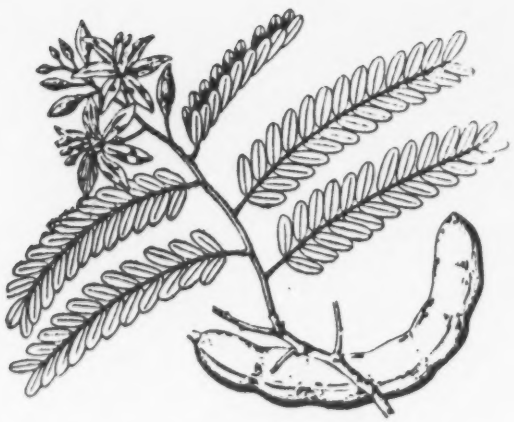
INDICATED FOR MEASLES

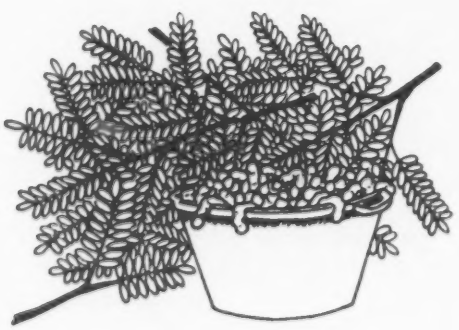
3 tamarind fruits
1 liter of water
child's

Boil the water with the fruit until the water turns color. Wash the body with the water.

FUN FACTS ABOUT THE TAMARIND TREE

The capital of Senegal, Dakar, is named after the local word for the tamarind tree. Marco Polo mentions the tamarind in the year 1298 A.D., and Indian Brahmasamhita scriptures mention it between 1200 and 200 B.C. Fruit pulp is often used to make worcestershire and barbecue sauces.





ZIZIPHUS MAURITIANA

Zarma name: darey

Seed collection: November-January
Seed treatment: crack stones to obtain seeds; transplanting not always successful

Tree Walk

Volunteer: Alfa, fonda habu!
Alfa: Ungwoya! Ni ka ga nwa habu.

V: Oh, ay go ga windi windi habu ra. Ifo no wo ne ?
A: I ga n'a se darey izey.

V: O-ho. Ay ga ba ra gumo. I ga kanu. A mo ay di i ga batama kali turi windi da.

A: O-ho, me. Yaddin dey no. I ga te ba how kosarey no.
V: Haba?
A: Walahi. I ga koptey dan foy ra. Almaney bumbo ga'a nwa.
V: Shah!

V: Alfa, greetings on the market.
A: Greetings to you, Bob. You're eating the market.
V: Yes, here I am, I'm walking around. Alfa, what's this thing here?
A: Those are ziziqhus fruits. You eat them.
V: Oh. I like ziziphus fruit a lot. It's really good. And I saw they made a live fence out of it, right?
A: Yes, that's right. They even make windbreaks.
V: Really?
A: And you can put the leaves in sauce. Even animals eat them.
V: Wow!

FUN FACTS ABOUT ZIZIPHUS
There is an arrondissement in the department of Zinder (on the Nigerian border) named after the ziziphus--*Magaria*. The food value of the fruit pulp is close to that of bananas.

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Natural Regeneration

Natural regeneration is the managed protection of naturally germinating tree species in farmers' fields in order to increase natural vegetation without diminishing agricultural output. Through these methods, farmers can strengthen the environmental integrity of the area and enjoy the secondary benefits of trees (medicines, wood, shade, fruit, etc.) without sacrificing their primary crop: millet.

Many volunteers hope to increase the number of trees in their area by outplanting trees from a nursery. While possible, there are several obstacles to this method. Nurseries are difficult to manage over the course of 5-10 months and often require expensive inputs of pots, water and labor. Seedlings grown in nurseries also prove to be less hearty than naturally-germinating seedlings due to the artificial conditions under which they were raised.

Natural regeneration can also prove difficult, however, because most local species have slow growth rates due to the species character suited to the Sahel, and the location in a harsh environment. It is difficult to protect trees from animals and humans during this period. Farmers must understand that it may take 10 years before they can see a notable difference in their fields, but there will be benefits to be had in two to three years such as wood for construction, firewood, etc.

The procedures of natural regeneration are simple in that they require little material input and they are implemented by individual farmers in their own fields. New volunteers can work easily with farmers one-on-one rather than try to organize community work using undeveloped national language skills.

The rule of thumb for the number of trees to leave in a field is about 40 per hectare, or 20-25 meters between fields. (see *Agriculture and Agroforestry Technical Manual* pp. 108-9) This can be accomplished as follows:

1. Select a farmer's field and make sure he understands his responsibility not to cut down trees that are marked. He should know that if all goes well, he will see quite a difference in the future (10 years).

2. Choose a tree to be marked. They can range in size from a full-grown tree to a new seedling barely out of the ground. It should be properly spaced in relation to other trees in the area.

3. Tie strips of cloth or sturdy plastic tape around on or two of the biggest branches of the tree. Make sure the farmer knows the significance of these markers.

4. Using a machete cut the remaining sprouts back to the ground surface. This will ensure that the remaining branches will quickly grow tall and strong.

5. Move on to the next tree noting carefully the spacing between marked trees.

Farmers should understand that as the years go by, they should take note not to clear out the marked trees, but they may clear any new trees that come up between the 20-25 meter measurements. It is important to try and find the balance between the number of trees and the productivity of the field. Through proper clearing practices and pruning of existing trees, farmers can increase productivity and also improve the environment.

advantage	riba	avantage
to blow	faru	souffler
the bush	saaji/ganji	en brousse
to choose	suban	choisir
to chop wood	beeri	couper des arbres
to be close	maanu	etre proche de
to crowd/squeeze	kan-kam	serrer
to cut	dumbu	couper
to die	bu	mourir
field	fari	champ
firewood	turi kan ga hinna	bois de cuisine
goodness	albarka	valeur
to kill (a tree)	wi	tuer
to last	gayi	mettre longtemps
machete	adda	coupe-coupe
to prepare a field	zooru	préparer le champ
to protect	halassi	protéger
scrap of cloth	zara-zara	morceau de tissue
seedling in the field	turi izey-teji	replant
shade	biyo	ombre
to tie	how	attacher
tomorrow (future)	suba	demain (futur)
to transplant	tilam	transplanter
tree	turi nya	arbre
usefulness	hinfani	utilité

Useful Phrases

Why do you cut all the trees from your field?	Ifo se ni na turi nyaney kulu wi ni fari ra?
What help can trees give your field?	Gaaksinay fo no turi nya ga hin ka dan ni fari ra?
Why is a field with trees better than a field without?	Ifo se fari kan gonda turi ga bori nda fari kan sinda?
What use do trees have in your field?	Nafa fo no go turi nyaney ga ni fari ra?
Don't kill all the trees in your field.	Si wi turi nyaney kulu kan go ni fari ra.
Trees can protect your field.	Turi nyaney ga hin ka ni fari halassi.
For the future's sake you should be careful with the trees in your field.	Suba se ni ma haggoy nda turi kan go ni fari ra.
In 10 years you will see its usefulness.	Kala jiri wey ni ga di a hinfani.
But after three years you could see benefits such as hut poles and firewood.	Amma jiri hinza banda ni ga hin ka di riba fo danga bakka bunda nda hinayan turi.
Can water soak into the ground in a place without trees?	Hari ga du ka sundu nan kan turi boLo si no?
Why would a man leave a tree seedling alone in his field?	Ifo se boro ma fay'da turi izeyteji kan go inga fari ra?
Do you know why trees in your field are stronger than trees from a nursery?	Ni ga bey han kan se turi nya kan jin ka zay ni fari ra ga gabu nda turi fun pepinyero(layda)?
Millet doesn't like trees that are crowded together.	Heyni si ba turi nya kan ga cere kan-kam fari ra.
Cut back the tree until there only are two or three strong branches left.	Ma turi kambe beeri kala kambe hinka wala ihinza kan gonda gabi ga cindi.
You should tie a scrap of cloth on a tree branch that you don't want to cut.	Ni ma how zara-zara turi kambe ga kan ni si ba ni ma'a wi.
Next year if you see a scrap of cloth you will know that you should not cut down this tree.	Hala yeesi nda ni ga di zara-zara ni ga bey han kan ni ma si turi wo ne wi.

You should tie scraps of cloth on trees that are not close together.	Ni ma how zara-zara turi nyaney ga kan si maanu cere.
20 to 25 meters between trees is enough.	Metter waranka wala waranka-cindi-gu turi gamma ra a na wassa.
8 or 10 traditional measurements* between trees is enough. *a "ganday" is equal to 1 and a half meters	Ganday hakku wala iwey turi gamma ra a na wassa.
All you want are trees with scraps of cloth in your field.	Ni si ba hala turi nya kan gonda zara-zara hinne no go fari ra.
Andropogon, too, can protect your field. It's like a tree because its roots hold the soil.	Subu nya, mo, ga hin ka ni fari halassi. A ga hima turi zama inga kajo ga labu gayi.

*A *ganday* is a traditional measure taken from the name for chest. It is approximately the distance between two arms outstretched, about one and a half meters.

Natural Regeneration Sample Lesson

Today let's talk about trees and the use they have in your fields.	Hunkuna no iri ma takare nda mate kan no turi nya ga hin ka te ni fari ra.
What kinds of uses do trees have for people? -they bring rain -they prevent soil erosion -they prevent wind erosion -they provide shade	Turi nyaney gonda riba fo no borey se? -I ga kande beyna hari -I ga labu gayi -how si faru gumo ga sambu labu. -I ga te biyo
Are there as many trees in you fields as there were long ago? -no	Sohon turi kan go ni fari ra ga zimbi ga to za don wo no? -ha'a
Why? -people cut them down	Ifo se? -borey go dey ga I wi
For what use? -firewood -houses -to grow more millet	Ifo no I ga te nda turi kan I wi? -turi kan ga hinna -turi kan ga fuo cinna -nda turi si heyni kan-kam
There are ways you can manage your field to have millet and the good things trees bring. You must protect the trees that already exist in your fields. These	To, ni bey han kan ni ga hin ka fari hanse kala ni gonda heyni nda turi nya gaaksinay ikulu. Ni hima ga turi nyaney halassi kan

trees are stronger than the ones you could plant there yourself. For tomorrow's sake you must protect the trees in your field so your children will have fields. You must wash the pot the night before to cook tomorrow, isn't that right?

jin ga zay ni fari ra. I gonda gabi nda turi kan ni ga kande ka tilam. Suba se ni ma haggoy nda turi kan go ni fari ra kan ni zankey ga du ka far. Suba hawru se no i ga kusu nyum cini, wala manti yaddin no?

Proverb Box	
Suba hawru se no i ga kusu nyum cini	For tomorrow's food you must wash the pot the night before.

Sample Dialogue 1

Volunteer: I come in peace.
Farmer: Amen, I welcome you. Greetings on your arrival, Chuck!

V: Back at ya! Greetings on your field! How are you?
F: Back at ya! I'm fine! [lit. true goodness]
V: What are you doing now?
F: I'm clearing my field for planting.
V: Why?
F: Because if I have many trees in my field, my millet won't get big fast. Therefore, I'm cutting them all down.

V: Trees don't serve any purpose in your fields, or what?
F: No, it's not that. They have some use but they're bad for my millet.

V: O.K., I know how you can have trees and millet all in the same field.

F: Go ahead and show me. I don't understand it.

Volunteer: Asalaam alaikum.
Farmer: Amin, alaikum asalaam. Fonda kayan, Chuck!
V: Ungwoya! Fonda fari! Mate ga ni go?
F: Ungwoya, me! Samay kwaray!
V: Ifo no ni go ga te sohon?
F: Ay go ga zooru.
V: Ifo se?
F: Zama hala ay gonda turi ibobo fari ra, ay heyno si tar ga beri gumo. Yaddinga, ay go ga i kulu wi.
V: Turi si hanse hai kulu ni fari ra, wala mate?
F: Ha'a, manti yaddin no. I gonda nafa, ama i si bori ay heyno se.
V: To, ay ga bey mate kan no ni ga hin ka te ga du turi nya da heyni kulu fari falan ra.
F: Sobey ga cebe ay se. Ay si faham nda.

[demonstrate methods]

V: You know that our land is getting worse. We must always prepare the way for those behind us.
F: That's so true. [lit. pure truth] If Allah wills it, I will see the benefit of this work.
V: But you know this will take time. It may take ten years.

V: Ni ga bey han kan labu no go ga ye banda. Borey hima ga zooru boro bandey se.
F: Cim kwaray. Nda Irikoy ba, ay ga di goy wo ne albarka.

V: Ama ni bey han kan a ga gayi gumo. Hambagar a ga nwa jiri wey.

F: The world needs patience.
V: May Allah give us a long life.
F: For us and all people.

F: N'dunya ga ba suru.
V: Irikoy ma iri no alomar kuku.
F: Iri nda borey kulu.

PROVERB BOX

Suurante ga zan waayi.	The patient man will milk the pregnant cow.
Da a ga'a nera a ga zada boro fo se.	If he sells it someone else will get its benefits.

Patience has its rewards.

Sample Dialogue 2

[Volunteer meets a woman with wood on her head on the road]

Volunteer: Greetings on your arrival, Sao! How was the road? [lit. How was the road behind your feet?]
Sao: Back at ya! No problems at all.
V: Where are you coming from now?
S: I went behind the plateau to gather wood.
V: It's not that far, right?
S: It's really far! I got up early but I didn't get there until noon. I spent all day gathering wood.

V: Why don't you go to your nearest field to gather wood?
S: Because there is no wood.
V: Why?
S: We cut them all down to plant millet.
V: Well, you know, I can show you what to do to protect trees without making your millet suffer.

S: What is that?
V: O.K., if you choose a few trees that don't crowd each other you should leave them alone when you clear the field.
S: How does a person know which trees to leave alone?
V: I'll show you how to tie scraps of cloth on them so you'll know them all.

S: Alright, go to our field tomorrow morning when Haissa Baba is clearing the field. I, myself, don't clear the field and kill trees. Therefore, you should show the men. But, for sure, if there were trees in our fields, it would lighten the women's load.

[Volontero na kubey weyboro kan gonda turi bono fondo bon]

Volunteer: Fonda kayan, Sao! Mate ce banda?

Sao: Ungwoya! Tali kulu si.
V: Hala man ga ni fun sohon?
S: Ay koy tondo no banda turi kuyan.
V: A si mooru, wala?
S: A ga mooru, kai! Ay tun za da hinne ama ay manna to nodin kala zaro to. Ay foy ga turi ku.
V: Ifo se ni si koy ni fari kan si mooru ka turi ku?
S: Zama turi si no.
V: Ifo se?
S: Iri n'I kulu wi ka duma heyni.
V: To, ni bey, ay ga hin ka cebe aran se mate kan no aran ma te ka turi halassi fari ra kan si heyni tabandi.
S: Ifo ga ti yaddin?
V: To, hala ni ga suban turi fo-fo kan si cere kan-kam, ni ga hin ka fey nda ingey kan aran go ga zooru.
S: Ifo no boro ga te kan ga bey turi fo no a ma fey nda?
V: Ay ga cebe aran se mate kan no ni ma how zara-zara I ga hala ni ga I kulu bey.
S: To, ni ma koy iri fari do suba susubey kan Haissa Baba go ga zooru. Ay bumbo si zooru ga turi wi. Yaddinga, ni ma cebe alborey se. Ama, walahi, nda turi go iri fari ra, a ga wayborey dogonandi.

Cultural Note

Often a woman will not say "my husband" (ay kurnye) or say her husband's given name, but they will say other "nicknames" (ma daké) to talk about him with others. Usually it refers to some relationship, such as "Haissa Baba" (Haissa's father) or "Karijo Kaina" (Karijo's younger brother). It can also be a position like "MaiGari" (chief of the village) or "Imam" (prayer leader). Some men also have names used primarily by children to distinguish the many "babas" in their concession, such as "Baba Yammayzo" (father that has gone on exode) or "Baba Yo-koy" (father with camels). All these names may seem confusing at first, but they will help you to better understand relationships in the village and to avoid confusion about who is who.

Improved Cookstoves

Building improved cookstoves (foyers ameliorés) is often one of the first work activities that new volunteers undertake in their villages. Because it is a very hands-on activity not requiring a high language level, it can be easily organized, as all of the materials are readily accessible and free in most villages. Improved cookstoves have their advantages and disadvantages, but they are an important effort in the ultimate goal of wood conservation and environmental protection.

ADVANTAGES

- saves wood--uses only 2 pieces
- blocks off the wind so the fire burns better
- stabilizes the pot so it won't tip over
- produces less smoke than a three-rock stove
- easy to clean
- safe--kids won't fall into the fire
- clothes won't catch on fire
- materials are free and locally available
- saves money by using less wood

DISADVANTAGES

- not portable
- requires maintenance when it cracks
- can only hold one size cooking pot
- provides no night light
- blackens cooking pot

Volunteers have taken various approaches to introducing cookstoves in their villages and sensibilising villagers on their importance. Often one of the biggest hurdles is convincing people that it's *not* just an anasara activity and that you're not there to make a stove for everyone in the village. The following are some avenues of sensibilisation that have been created by volunteers:

- construct a model cookstove in your concession and use it;
- arrange for stoves to be built at the dispensair where bouillie (weaning porridge) demonstrations are held;
- work with the teachers on incorporating cookstoves into the environmental education curriculum and then have a practicum;
- organize a cook-off in the village, a contest between improved cookstoves and three-rock stoves. Have prizes for the best sauces and dishes;
- form stoves teams of people who know how to build stoves and work out a small recompense with people in the village for having them built;
- build stoves with a children's scout group that you might organize;
- train individuals to build stoves for themselves;
- hold Vitamin A cooking demonstrations on improved cookstoves;
- talk CFA--one volunteer in Tahoua asked people about the money they spent buying wood and then calculated how much they would save in a year with an improved cookstove instead of using a three-rock stove. She then bought an equivalent amount of pagnes, soap and pots and pans with that money and showed people what they could buy with the money they would save in one year by using improved cookstoves.

The following parts are covered in the rest of the section, with a main vocabulary list, and useful phrases and sample dialogues for each part:

A. Advantages
B. Mixing the Mud
C. Choosing the Spot
D. Choosing the Pot
E. Construction
F. Door Cutting
G. Measurements
H. Repair

Vocabulary List

ash	bosu	la cendre
between	gama ra	entre
to build	cinna	construire
chaff	du	le bale
chimney	dullu fonda	la cheminée
cooking pot	kusu	la marmite
to crack	kortu	fissurer
to cut	dumbu	couper
desertification	kogandi	la desertification
door	meyo	la porte
to dry	kogu	sécher
efficiency	gabi	l'efficacité
environment	saajo	l'environnement
fire	danji	le feu
firewood	hinayan turi	le bois de chauffe
to form into balls	kankam	
heat	dungay	la chaleur
height	kuyan	la taille
hole	gusu	le trou
improved mud cookstove	zamani fema	le foyer amelioré
knife	zama	le couteau
to make something straight	sasabandi	
manure	birji	le fumier
to measure	dedandi	mésurer
to mix	dan carra	mélanger
to mix into a paste	dibi	
rock	tondi	la roche
sand	tasi	le sable
smoke	dullu	la fumée
strategy/idea	dabari	la méthode
mud	botogo	le banco
to take care of	hallasi	proteger
thin and flimsy	mari	maigre
thick	warga	épais
traditional 3-rock stove	fema	le foyer
to turn	barey	tourner
under	cire	sous
wall	myur	le mur
wind	how	le vent

Important Points

A. Riba	A. Advantages
Sohon Nijer labo ra hinayan turi sandey go no.	Now in Niger, it's hard to find firewood.
Suba se iri hima ga zabu turi hasaro.	For the sake of the future, we must stop using so much wood.
Da ni go ga hinfanin da zamani fema a ga weyborey dogonandi.	If you use improved cookstoves, it lessens women's work.
Zamani fema si turi boobo hasaraw. Turi izey hinka wala ihinza ga ni feri.	Improved cookstoves don't use a lot of wood. Two or three pieces is muradu enough.
A ga tar ga'a dungandi. Kusu ga tar ka wasu	It gets really hot. The pot gets heat from everywhere.
Zamani fema myuro ga dungaro gayi, a ga how kosaray.	Its wall keeps in the heat and blocks out the wind.
A si dullu boobo ka.	It doesn't make a lot of smoke.
Zankey si kan danjo bon.	Children don't fall in the fire.
Boro bankaray si kan danjo ra ga ton.	Pagnes don't get in the flame and catch on fire.
Kusu si yolku ka foyo mun danga fema wato.	The pot doesn't tip like on traditional stoves. That way the sauce doesn't spill.
Fala no, zama zamani fema goy jiney go nan kulu.	It's free. All of the materials are here in the village.
A teyan si gabu. Guru fo banda hala a ban.	It's not hard to build. Even in one hour it's already done.

Improved Cookstoves Sample Dialogue

Group of three women preparing food in a concession

Volunteer: Kok Kok! Asalaam alaikum.

Women: Kubeyni! Fonda kayan. Ni ka?
V: Oh, ay ka. Mate aran kani?
W: Ban'samay no. Ni tun bani da lafia?
V: Samay dey no. Mate zankey?

W: Samay no i go. Mate farga?
V: Samay wala. Ni go hinnayan ga wala?
W: Oh, iri go ga hawru nda foy hinna.
V: To, a boori. A hima ni ma ay dondonandi mate kan i ga nwaari hinna zama ay si wanni.
W: Haba? A hima nda ni mo ni ma wanni; haray ma si koy ga ni wi!

V: Wallahi. Ni ga goy nda turi boobo?
W: Gumo, wala. Wo ne fema no kan gonda tondi hinza ga turi boobo nwa.

V: Aran bumbo kan ga turi ku wala?
W: O-ho, mey! A mo nango kan iri ga'a ku ga mooru. Iri ga to guru taachi wala igu hala iri ga goy ga ka.
V: Wato din mate no aran te ga turi margu?
W: Za gayyan turi si mooru kwara. Ba fari i si hin ga i fayyanka turi boobo se. Amma sohon ni di kogando to kwara ra.

V: Hatta-hatta aran ga turi dey, wala?
W: O-ho, hatta ga ka hatta. Subhanna! Turi ga cada sohon.,
V: Haba? Marje no a go sohon?

W: To, habu ra turi bono kulu zangu no.

V: Habba! Wallahi, a ga cada, fa.

W: Ni di, wala?
V: Ni bey ga zamani fema deda ma?

W: Ha a. Iri s'a bey ne.
V: To, ne kwaro ra weyboreyan go na ka goy da zamani fema. Ni ga Mariya, Hassane wande bey?

W: O-ho, iri ga'a bey.
V: To, a gonda a dumo. Hambagar iri ma koy a fuwo do aran ma di a wane zamani fema..

W: To, amma ni ma nan hala iri ma goyo ban hala iri ga koy nodin.

Volunteer: Knock Knock. Peace be with you.
Women: Welcome! You came?
V: Yes, I came. How did you sleep?
W: Very well. Did you sleep well?
V: Just fine. How did the children sleep?
W: They're fine How's the tiredness?
V: Just fine. You're cooking food?
W: Yes, we're cooking pâte and sauce.
V: That's great. You must teach me how to cook food because I don't know how.
W: Really? Well then we must teach you so you too, you can. Hunger shouldn't kill you!
V: Really. Do you use a lot of wood?
W: Sure do. This traditional stove, the one with three rocks, it eats a lot of wood.
V: Do you gather wood yourselves?
W: Of course! And it's far where we gather it. We have to march four or five hours to gather wood.
V: A long time ago was it like that?

W: A long time ago, there were trees here close by. You couldn't see in the fields because there were so many trees. But now the desert has started to come close.
V: Sometimes you buy wood, right?
W: Yes, from time to time we buy it. It's just expensive.
V: Really? How much money is it now?
W: Well, now in the market a bundle of wood is 500 cfa.
V: No way! It's really expensive.

W: You see?
V: Have you ever heard about improved cookstoves?
W: No. We don't know about it.
V: Well, there are women in this village who use improved cookstoves. Do you know Mariya, Hassane's wife?
W: Yes, we know her.
V: Well, she has this kind. Why don't we go there to her house and you can see with your own eyes her improved cookstove.
W: Okay, let us finish work here then we'll go there.

Later on....

Volunteer and women: Salaam alaikum, fu koyey.
Mariya: Marhaba! Fonda kayan!
W: Mariya mate ni kani?
M: Samay, wala. Mate aran kani?
W: Ban'samay no. Mate fu kulu?

M: Fu kulu samay. Mate aran do hare?

W: Bani samay wala. Karima no ne iri se kan ni gonda dabari kan gonda dogoney fema fonda ra. Wodin kande iri nongo wo.
M: Oh, i na ay dondonandi mate kan i ga zamani fema te da botogo. Sohon mo ay wanna.
W: To, inga da tondi hinza fema wo fo no ga bisa a fo?

M: Ay ze nda Irikoy zamani fema gonda dogoney ga bisa don fema. Turi izo hinza wala itaachi ga ni murado feri A ga dungu gumo zama inga myur no ga dungey gayi; a ga how kosaray.

W: Irikoy beeri! A gonda hinfani gumo sonku binde jaw waate ra. How go no nda danjo si di a ma boori da how ga faru.

M: Ni di? Koyne jaw waate zankey ga ma yeni. Ni bey kan mannan Alfa izo kan danjo ra, wala?

W: Wallahi, a ton gumo. Irikoy ma booriyandi.
M: Amin. To, ni di nda ni gonda zamani fema ni zankey si kan danjo ra koyne. Borey bankaray si kan danjo ra.
W: Cimi no a gonda hinfani gumo. Ni ga hin ka dede iri se mate kan i ga cinna da iri ma du ga'a te iri bon se.

M: To, zama *ay di ba ay ma*, kulu ay ma koy aran do ay ma'a te aran ma di, wala?
W: O-ho, yaddin no.

Volunteer and women: Peace be with you members of the house.
Mariya: Welcome to you!
W: Mariya, how did you sleep?
M: Very well. How did you sleep?
W: In health. How did your family sleep?
M: They are all in health. How about at your place?
W: They are all well. The thing that brought us here today--Carima said that you have an easier idea. An improved cookstove?
M: Yes, I learned how to build cookstoves with mud and now I can.
W: But really, does it work like the three rock stove? The traditional one?
M: I swear to God. It's easier than the traditional one. And you know, it doesn't eat wood like the traditional one. Two or three pieces of wood is enough. And it gets really hot because the walls hold the heat and they block out the wind.
W: God is big! It's really useful. And especially now during the cold season. There's the wind and the fire doesn't do well if the wind is blowing a lot.
M: You see? Also during the cold season, children are cold. You know how last year, Alfa's son fell in the fire, right?
W: That's right. He really got burned. May God improve it.
M: Amen. Well, with this stove, children don't fall in the fire and pagnes don't go in the fire.
W: Really. It has a lot of benefits. Can you tell us how to build an improved cookstove so we can build one ourselves.
M: Well, since seeing is believing, I should go to your house and show you how to do it, right?
W: Yes, that's right.

PROVERB BOX	
Ay di ba ay ma.	Seeing is better than hearing it.

B. Botogo Dibiyan

I ma botogo dibi mate kan don borey te.

B. Mixing The Mud

Mix the mud like the traditional ga kind

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ın corra nda du nda hari nda	**You need to mix the mud with millet chaff and water and manure.**
I ma nan jirbi hinza wala itaachi banda I ma'a teyandi gumo.	Leave it sit/cure for three or four days. By then it'll be well moistened.
Nda hari ba a ra, i ma bosu tonton..	If there's too much water, then add ash.

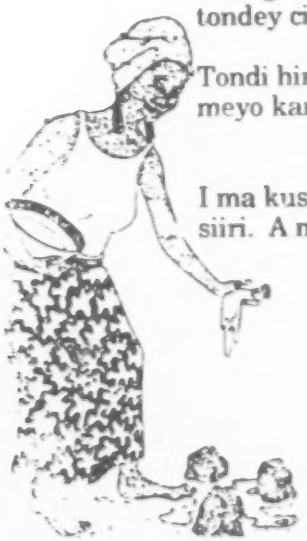
More Sample Dialogue

M: To aran ma botogo dibi a ma te jirbi hinza wala itaachi, aran ma? Aran ma dibi aran windo ra mate kan don borey ga te nda botogo nda botogo nda heyni du nda birji nda hari.	M: To, you should mix the mud and leave it for three or four days, okay. Mix it at your house like they do traditionally, with mud and millet chaff and manure and water, okay?
W: To, nda Irikoy ma yedda iri ga'a dibi.	W: Okay, we'll mix it if God agrees.
M: To, Irikoy ma yedda. Yaddin ga kala ay ga ka aran kwara	M: Alright, may God agree. Then I'll see you when I come to your house.
W: Amin. Irikoy ma iri cebe.	W: Amen. May God show us.
M: Amin.	M: Amen.
W: To, Karima, iri sabu gumo mate kan ni na iri boney feri dabari dogonante bon nda Irikoy ba iri mo iri ga zamani fema cinna iri do.	W: Well, Carima, we are happy that you brought us here since we got news of an easier way. If God wills it, we, too, will get an improved cookstove at our house.
C: To, nda Irikoy ba. Harkay boori gumo yaddin ga.	W: Well, then may God will it. The work/business was good.

C. Nango Subanyan

C. Choosing The Spot

A hima i ma nango hanno suban nan kan i ga fema cinna.	You need to choose a good place to build the stove.
Ga i ma ceeci tondi hinza i ma i tayandi nda hari.	Get three rocks and wet them with water.
I ma gusu fansi ga i ma botogo dan tondey cire.	Make a hole and put mud under the rocks.
Tondi hinka gamo ma beeri kaina fo, meyo kan i ga ka se.	With two rocks, put a little space between them for the door that we're going to cut.
I ma kusu dake tondey bon. Kusu ma si siiri. A ma goro ga boori.	Put the pot on the rocks. It shouldn't move around. It should sit just right.



I ma neesi nda kambe nya kuso nda ganda gammo. Nango ma si ba gumo dungey se. Nango ma si kaina mate kan turi ga hin ka furo fema.

Measure the space between the pot and the ground with a hand and thumb extended. The space should not be too big because it won't get hot. But it shouldn't be too small because the wood won't go in the stove.

Jirbi taachi banda

Mariya: Kok-kok! Asalaam alaikum.

Women: Kubeyni! Ni ka.
M: Ay dey ne. Mate aran kani?

W: Bani samay wala. Mate jirbi hinka?

M: To, alhamdulilahi. Mate mai gida kani nda?
W: Mai gida, a ga Irikoy sabu.
M: To, madalla. Aran na botogo dibi wala?
W: O-ho, za bi fo no iri na dibi nda du nda birji nda hari.

M: To, yadin dey no. A boori. Sohon a tay mate kan i ga ba.
W: O, ka ga di.
M: Walahi, a boori gumo. To, sintina dey aran hima ga suban nan kan aran ga ba fema se.
W: To, nan kan iri ga hina waati kulu ne.

Four days later

Mariya: Knock Knock. May God protect us.
Women: Welcome! You came?
M: Yes, It's me. How did you pass the night?
W: In health. How have these two days been.
M: Well, thanks be to God. How did your husband sleep?
W: He slept in health.
M: Good. Did you mix the mud?

W: Yes, since day before yesterday we mixed it with millet chaff and manure and water.
M: Just right. Now it's moistened well.
W: Yes, come and see.
M: Really, that's great. Okay first, you should choose where you want the cookstove.
W: Okay, here's the place where we always cook food.

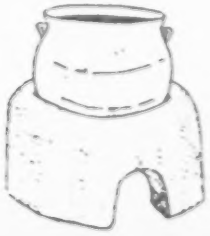
D. Kusu Subanyan

Wa suban kuso wan kan i ga fema te nda.

Fema ma saba nda kusu lamba. Yadin ga kusu kulu gonda inga fema lamba.

Hala kuso kaina nda zamani fema a si hinfani. Hala kuso ga beeri nda fema a si goro a ma boori.

A hima aran ma suban kusu kan ra aran si goy jirbi hinka ra zama i ga kuso nan hala suba fema ga.



D. Choosing The Pot

Choose the pot that you're going to make a stove for.

The stove must be made for the size of the pot. Each size pot has its own stove.

If the pot is too small fo the stove, it has no use. Bu .s the pot is too big for the stove, it doesn't sit right.

You need to choose a pot that you're not going to need today because you leave it in the stove until tomorrow.

Sample Dialogue cont'd.

M: Ihinkanta, i ma kusu kan ga saba suban. Zama nda kuso kaina a si hinfani, nda a beeri mo a si goro ga saba.

W: To, hawru kusu ne.
M: Nda aran ga ba iri ga kokoro ga foy kusu fema te mo.

W: O-ho, wala. Yaddin no iri ga ba.
M: To, sohon wa kande tondi hinza. Ga iri ma gusu fansi iri ma botogo dan i cire ga iri ma kuso dake i bon. Iri ma neesi nda kambe nya kuso cire nda ganda gamo. Kusa ma si koy bene gumo a ma si koy ganda gumo, amma a ma saba nda kambe nya neesiyan.

W: To, iri di'a wala.

M: Secondly, you should choose the cooking pot that you want because the stove has to be right for the pot. If the pot is too small for the stove, it doesn't work. And if the pot is too big for the stove, it doesn't sit right.
W: Okay, here's the hawru pot.
M: If you want, afterwards we can make a stove for the sauce pot, too.
W: That's what we want.
M: Okay, now, you should bring three rocks. Make a hole and put mud under all three rocks. Then well put the pot on them. Let's measure with a hand with the thumb extended between the ground and the bottom of the pot. The pot shouldn't be too high or too close to the ground. It needs to be just right if you do the thumb measurement.
W: Okay, we see.

E. Zamani Fema Botoga Kankamyan

I ma botogo kankam ga i ma sintin cinari I ma dan tondey ga a ma boori.

Botoga ma to kuso jindey ga hala a ma kuso hangey dabu.

Myuro ma si warga gumo a ma si mari.

I ma myuro tafeyan neesi nda kambe nda kambe izey hinka.

I ma kusu barey ga no i ga du ga dullu fondo ka.

Cinari ma si te kala myuro si siri. A ma saba ga boori. Nda boro ga ba a ma'a talam.

I ma zamani fema dabu nda tangara zeno wala nda sakku zeno a ma si tar ga kogu.
Suba i ga meyo nda dullu fondey ka.

E. Kneading Mud Into a Ball Building The Stove

Knead the mud into balls and start building. Stick it really well to the rocks.

The mud should reach to the neck of the pot and cover the ears of the pot

The wall shouldn't be too thick or too thin and flimsy.

Measure the wall so that it's a hand and two fingers wide.

Turn the pot because tomorrow you'll cut the space for the smoke to go out.

Make the walls STRAIGHT. Decorate it if you want.

Cover it with an old mat or an old sack so it doesn't dry too quickly.
Tomorrow we'll cut the door and

the air holes and we'll take out the pot.

Sample Dialogue cont'd.

M: To, sohon a hima iri ma sintin. Iri ma sintin ga botoga kankam ga iri ma fema cina. I ma cina hala kuso jinda ga kala a ma kuso hangey dabu. Aran di, wala?

W: O-ho, iri di.

M: To, amma myuro ma si warga gumo a ma si mari. Myuro nesiyan i ma te nda kambe nya nda kambey ize hinka. kuyan ya cine. Aran ma, wala?

W: To, tali kulu si.

M: To, mate kan iri ga kuso nan hala hima ga kuso barey, ga iri ma fema tusu nangay kulu kan kortu. Aran ga ba talamyan?

W: To, madala. Iri ma te deyzan fo.

M: Madala. Yadin ga fema ga boori.

W: Sikka kulu si.

M: To, sohon iri hima iri ma dabu kala suba ga no iri ga meyo nda nan kan dulu ga gana ka. Aran gonda sakku wala tangara zeno iri ma fema dabu?

W: O-ho, tangara ne.

M: To, a boori. Yaddin ga kala suba mansan cine iri ma goyo gasandi.

W: To, Mariya, fonda kokari. Iri sabu, ni ma?

M: To, ungwoya. Aran mo fonda kokari. Aran bey iri hima ga fongu nda banda borey kan ga ka. Iri hima ga turi hasaraw zabu. I ma du ga da hanno tubu.

W: Walahi, cim kwaray. Hay kulu si kala Irikoy kambe ra.

M: Okay, now let's start. The thing we're going to do now, we should knead the mud into balls and build the stove. We need to build the stove up to the neck of the pot, until it covers the ears of the pot. You understand, right?

W: Yes, we understand.

M: Okay, the wall shouldn't be too thick nor too thin and flimsy. If you measure it, it should be one hand and two fingers like this, you hear?

W: Okay, no problem.

M: Since we're going to leave the suba iri pot in the stove until tomorrow, we should turn the pot. And we need to smooth it all over. Do you want to decorate it?

W: Alright! We should do a picture.

M: Definitely! That'll be great.

W: No doubt.

M: Okay, now we need to cover it until tomorrow. At that time, we'll cut the door and the air holes. Do you have an old mat or an old sack?

W: Yes, here's a mat.

M: Okay, that's good. Then when I come tomorrow at this time, we will finish the work.

W: Well, Mariya, greetings on your effort. We're grateful, you hear?

M: Greetings to you too. You too, greetings on your effort. You know, we need to remember those who come after us. For the future, we need to take care of of this place and stop cutting down so many trees.

W: That's the truth. It's all in Allah's hands.

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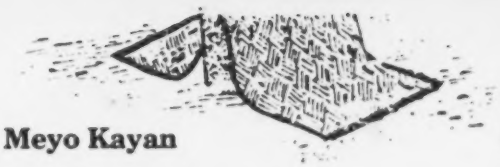

F. Meyo Kayan

I ma fondo ka kusa nda fema myuro gamma ra, nan kan dullu ga fatta. Ni kambe ga du ga bisa i gamma ra.

I ma meyo ka mate kan turi hinka ga bisa fema ra.

Meyo ma si hay gumo. I ma turi sambu ga hansi a ma saba.

I ma funiize hinka ka how ma du ga furo.

Funiize ma si koy ganda gumo. Amma i ma koy bene kaina fo. Kambe izey hinka ma du ga furo funiizo ra. should go in.

Jirbi fo banda...

Mariya; Kok-kok! Asalaam alaikum, fu koyey.
Women: Mariya no? Ni du ga ka?

M: Oh, ay ye ga ka. Mate aran foy?

W: Ban'samay. Ni foy bani?

M: Samay-samay. Mate zamani fema cinari farga?
W: To, farga si no, ba kaina fo.
M: To madalla. Hunkuna no iri ga meyo nda nan kan how ga furo ka. Aran gonda zama, wala?
W: Oh, inga ne.
M: To, i ma meyo ka kambe fo kuyan cine mate kan turi ize hinka ga bisa amma a ma si kankam.

W: Ya cine?
M: O-ho, wala. Lalle aran na goy wo ne gayi gumo aran boney ra.
W: Iri ga Irikoy sabu.
M: To, wodin banda aran ma how fonda ka. Aran ma fun hinka ka. I ma si koy bene gumo, i ma si ka ganda gumo. Aran ma? I ma saba no i ga ba.
W: To.
M: Sohon wa kuso ka, i ma gama nan mate kan kambe ga bisa kuso nda myuro gamma ra, dullu ma du ga fatta se.

W: Ya cine wala?

F. Cutting The Door

Have room for a hand between the pot and the stove for the smoke to go out.

Cut the door to put wood in the stove.

The door shouldn't be too big. Test it with a big piece of wood.

Cut two holes behind for air to go in.

The holes shouldn't sit on the ground. They should be up a bit. If you measure them, two fingers

The next day...

Mariya: Knock knock. Peace be you, people of the house.
Women: Is it Mariya? You were able to come back?
M: Yes, I came back. How did you pass the day?
W: In health. Did you pass the day in health?
M: Very well. How is the tiredness from building stoves?
W: No tiredness at all.
M: Good. Today we need to cut the doors and the air holes. Do you have a knife?
W: Yes, here's one.
M: Okay, for the wood door, you need to cut like the length of one hand so that two pieces of wood can fit in without crowding.
W: Like this?
M: That's exactly right. You really took hold of this work!
W: Thanks be to God.
M: And here behind, this where the air holes go. Make the holes but not on the ground, you hear? Put them a bit higher.
W: Okay.
M: Now you need to take out the pot. You need to leave space between the pot and the stove wall for one hand so that the smoke can go out.
W: Like this, right?

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M: Yaddin dey no. To, a ban. Nda fema kogu gumo, aran ga hin ka sintin goyo nda kan sinda tali kulu.

W: To, madalla. Walahi, a teyan si doru. A ga goy gabo zabu. Iri sabu gumo-gumo, ni ma? Irikoy ma albarka dan ni ga.

M: Amin. Koyne Irikoy ma iri no saye.

W: Amin, wallahi.

M: Ay ma si dinyan. Ay ga ci aran se mate kan i ga haggoy nda zamani fema Nda a kortu i ma hanse za nda hinne. I ma'a hanse i ma tusu nda botogo, aran ma, wala?

W: To, wo ne si doru ba kaina fo. Nda Irikoy ba, iri ga hanse.

M: To, Irikoy ma yedda. Ay ga koy sohon.

W: Amin. To, Mariya, iri sabu gumo. Ni na iri ka kubey ra. Borey no ga ne, "Jan ga beyrey a kubey ga ba cini." To, Irikoy ma iri no saye.

M: Amin.

M: Exactly right. Okay, that's it. If it's completely dry, then you can start using it. No problem.

W: Great. It's really not hard and it lessens our work. We're grateful to you, you hear. May God give you blessings.

M: Amen. And may God give us luck.

W: Amen. Really.

M: Let me not forget to tell you how to take care of it. If it cracks, you need to repair it early. You should smooth mud on it and repair it, you hear?

W: That's not difficult. If God agrees we'll fix it.

M: Okay, may God agree. I'm going now.

W: Amen. Okay, Mariya We're really grateful. You took us out of the dark. You know what they say: Ignorance is darker than night. May God give us luck.

M: Amen.

G. Remember The Five Hand Measurements

1. Kuso nda ganda gammo ra kambe nya ma kayi.

1. Between the pot and the ground, a hand with the thumb extended.

2. Fema tafey a ma saba da kambe fo nda kambe izey hinka kuyan.

2. The width of the stove wall, one hand and two fingers.

3. Nan kan dullu ga fatta kuso nda fema gammo ra a ma te kambe izey fo tafey.

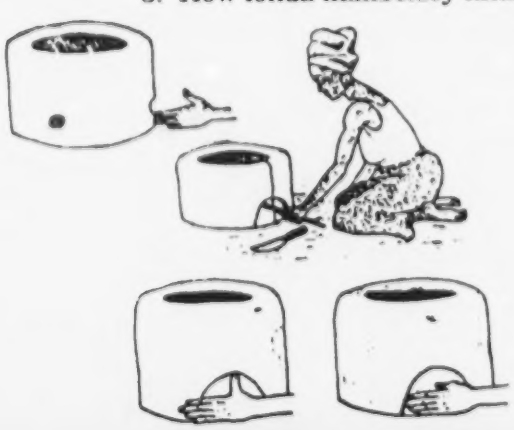
3. The space where the smoke escapes between the pot and the wall of the stove, one hand.

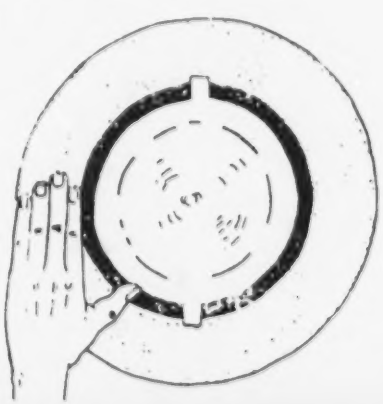
4. Meyo-kambe fo-turi ize hinka ma du ga bisa, i ma si kankam.

4. The door- one hand- for two pieces of wood to go in without crowding.

5. How fonda kambeizey hinka ma bisa.

5. Air holes- two fingers.





H. Hanse-Hanse

Hatta ga ka hatta i hima ga zamani fema hanse. Za a kortu i ma hanse za da hinne.

I ma nan kan kortu dabu da botogo teji ga i ma saku wala tangara zeno ceeci, i ma dabu hala a ma kogu.

H. Repairs

You should do repairs any time. If the stove cracks, fix it early.

Smooth the crack with new mud and cover it with an old mat or old sack until it dries.

Cross-Culture Note

In addition to putting ash from cooking stoves on plants to repel bugs, women will mix the ash with ammonia salt (sold in the market as "gishirin lalle") and water and put it on hennaed hands and feet to turn them black.

Health

A proverb in Zarma goes "Gaham bani arzaka no", health is prosperity, or, no health no wealth. Health is life, especially here in Niger where adults and children are often undernourished and susceptible to so many illnesses and diseases. A sick man is unable to work in his fields to grow millet for his family. A sick woman cannot pound, go to the well, and take care of her children. Niger has the highest infant mortality rate in the world, and 1/3 of all children will die before they reach their fifth birthday.

Perhaps often much to your frustration, your villagers will come to you seeking medical assistance. It is important to understand that historically, *anasaras* coming to Niger have been medical personnel oftentimes with large trunks of medicine to pass out. It is not surprising then that you find yourself besieged with requests for aspirin, bitamins (vitamins) or diarrhea medicine, or asked to look at sick children or festering wounds. Sometimes volunteers feel at a loss because the nearest medical facility may be kilometers away, and villagers may be hesitant to go whether from the perception of the dispensary as a place to go to die, or because medical personnel may be less than friendly and not have medicine anyway.

Although you are not a trained health worker, there are certain interventions that you may be able to perform. Oftentimes these are not formal health lessons, but instead can be given as informal suggestions while visiting a friend's house or while passing a group of women at the well. It is important to remember as well that any project you approach will ultimately affect the health and well-being of the families in your village, be it a well project to improve water sanitation, a live fence to protect the garden which will produce vegetables for family consumption or natural regeneration which could provide firewood and thus reduce women's workload, thereby improving their health.

How much you choose to do with health in your village will depend on you, but it helps to keep people's requests for medicine and medical assistance in perspective. Some thoughts to ponder include:

- as mentioned earlier, people frequently associate *anasaras* with medicine-givers from historical precedence;
- Nigeriens ask each other for things all of the time, and seem to adopt the view that it doesn't hurt to ask;
- Nigeriens also generally give each other things that are asked for, and would probably give medicine to each other if they had it;
- Remember about setting precedents if you give aspirin to a friend for fever or put a bandaid on a child's cut. Word will probably spread and you may be inundated with requests. But maybe not.
- Most people will suffer at least 1-2 bouts of malaria per year, and this can cause terrible suffering.

Some interventions that you might be able to make include the following:

- sugar salt solution for oral rehydration during bouts of diarrhea and vomiting;
- warm salt water solution for conjunctivitis and cuts and wounds;
- family planning sensibilisation;
- the importance of vitamin A consumption and its sources;
- well and water sanitation for health and hygiene;
- fever reduction by using a cool pagne.

Although in many circumstances people will need to seek further medical assistance, some points you can offer may be able to help them feel better until they are able to get themselves to a medical facility (generally after they've seen the traditional healer, but that's a whole nother story!). You could enlist the help of a nutritionist in your area or make copies of health lesson visual aids. Find out if there are matrones (traditional midwives) or sécouristes (trained first aid workers) in your village and what role they play in health and health education. They, too, should be familiar with all of the above interventions.

Diarrhea

Diarrhea causes dehydration, which kills approximately 3.5 million children every year. Diarrhea is also a major cause of child malnutrition. The main causes of diarrhea are poor hygiene and lack of clean drinking water. These seven health messages can help parents and communities to prevent almost all of these deaths and most malnutrition caused by diarrhea:

- When a breastfed child has diarrhea, it is important to continue breastfeeding.
- A child with diarrhea needs food.
- Dehydration is a major risk during diarrheal and vomiting episodes. If a child has diarrhea or is vomiting, oral rehydration solution should be given from the start until the end of the diarrheal or vomiting episode.
- Trained help is needed if diarrhea is more serious than usual.
- A child who is recovering from diarrhea needs an extra meal every day for at least a week.
- Medicines should not be used for diarrhea, except on medical advice.
- Diarrhea can be prevented by breastfeeding, by immunizing all children against measles, by using latrines, by keeping food and water clean, and by washing hands before touching food.

Vocabulary list

blood	kuri	le sang
bowl	tasa	la tasse
to cover	dabu yan	couvrir
to cry	hein	pleurer
dehydration	hari janay gaham ra	la déshydratation
diarrhea	sori/gunde kar	la diarrhée
dry up	kogandiyan	sécher
fontanelle	longo	la fontanelle
hygiene/cleanliness	hananyan	l'hygiène
lethargic	hayfuno	faible
mucus	nisi	la morve
salt	ciri	le sel
skin	kuru	la peau
spoon	kawra	la cuillère
stir	tunandiyan	rémuer
sugar	sukar	le sucre
water	hari	l'eau
thirsty	jaw	la soif
tears	mundi	les larmes
urine	harmun	l'urine

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Common Phrases

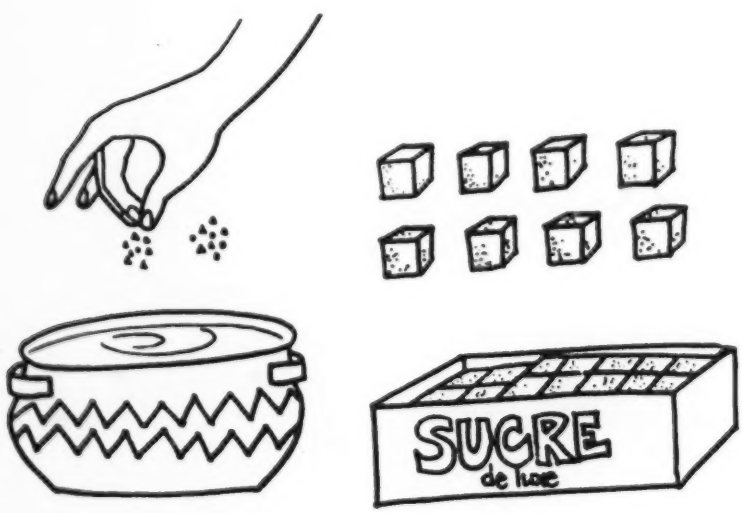
How long has he had diarrhea?	Za watifo na go ga sori?
Is there blood in the diarrhea?	Kuri go ga ka?
Is there mucus in the diarrhea?	Nisi go ga ka?
Has he been eating?	A ga nwari nwa?
Do you know how to make ESS?	Aran ga faham da mata kan ni ga ciri da sukar haro te?
How do you make it?	Ni go ga no ciri da sukar haro?
Have you been giving him ESS?	

Recognizing the signs of dehydration

Parents should seek help from a health worker without delay if the child:

- becomes dehydrated. Some signs of dehydration are:
  - -sunken eyes;
  - -extreme thirst;
  - -no tears when the child cries;
- has a fever;
- will not eat or drink normally and vomits frequently;
- passes several watery stools in one or two hours.

If a child has any of these signs, qualified medical help is needed quickly. The mother should keep trying to make the child drink liquids, especially the sugar-salt-solution (SSS/ESS) and the oral rehydration solution (ORS/SRO).



Making the Sugar-Salt Solution (ESS)

Now I'm going to show you how to make ESS.

Sohon ay ga cabe aran se mate kan I ga ciri nda sukar haro te nda.

Children with diarrhea need to always keep drinking water because they become dehydrated. Children with diarrhea suffer a lot.

Zankey kan ga soru gonda hari muradu wati kulu, zama gahamey sinda hari. Zankey kan ga soru go ga tabi gumo.

Here is what you must do: measure one liter of clean water in a sauce bowl.

Wodin se, hankan aran hima ga te ne. Aran me nesi hari litar fo. Aran ma bare tasa fo ra.

Add 8 cubes of sugar and two pinches of salt with three fingers.

Aran ma tonton sukar ize haku nda ciri kayna.

Stir this solution until all the ingredients have dissolved.

Aran ma haro tunandi hala sukaro da ciro ma manne.

You should give your child this solution after each episode of diarrhea until the diarrhea has finished.

Gunde kar kulu banda I ma no safaro din kalan nda gunde karo kay.

Don't forget to bring your child to the dispensaire as soon as he begins having diarrhea.

Aran ma konda zanka lokotoro kwara za soro sintin.

Sugar Salt Solution Sample Dialogue

Volunteer: Kok kok! Asalaam alaikum.
Mother: Kubeyni! Fonda kayan Safia!
V: Ungwoya! Mate ni kani?
M: Ban'samay! Ni kani ka ban, dey.
V: To, madala. Ay ga Irikoy sabu. Mate gaham?
M: Samay, walla.
V: Mate no, ni izo sinda bani no?
M: Wallahi, a sinda.
V: Jam! Ifo no go a ga?
M: Wallahi, A gonda gunda kar.
V: Jam, walla. Ni faham nda hari kan gonda sukar nda ciri margante, wala?
M: O-ho, ay ga'a bey.
V: Zama ni bey hala kociya go ga sooru a ga ba hari waati kulu. Zama ni ga bey mate kan no heyni ga te hala a sinda hari.

M: A ga bu.
V: Yaddin dey no. Zama soori ga zankey tabandi gumo. Hari ga fata kala I gahamey ma kogu. Ingey mo ga ba hari danga heyni.

V: To, iri ma te sukar nda ciri margan te. Zankey kan ga sooru se, a bisa hari bi.

Cebe ay se mate kan no ni ga te.
M: To, sintina ay ga hari litar fo bare tasa ra. A hima ga ti hari bi no kan sinda zibi kulu.
V: To madala! A bori gumo!
M: To, wodin banda ay ga dan sukar ize hakku nda ciri kamb'ize me hinka yao cine.
V: O-ho, me. Ni bey hala ni sinda sukar ize ya cine ni ga hin ka dan sukar hamni kowra mey hinka nda jarey.

M: O-ho. Wodin banda ay ga'a dibi hala sukaro nda ciro manne. Hala a gunda karo sintin, ay ga'a no hari wo ne waati kulu kala a sooro ma .

Volunteer: Knock Knock! Peace be with you.
Mother: Amen. Welcome to you, Safia.
Thanks thanks. How did you sleep?
In health. May your sleep be good.
Very well. Thanks be to God. How is your body?
Good, for sure.
Hey, is your child sick?
Really, she isn't well.
Too bad. What does she have?
Well, she really has diarrhea.
Oh no. Do you know sugar salt water?

Yes, I know it.
Because you know when children have diarrhea, they need water all the time. You know what happens if millet doesn't get water?
It dies.
That's right. And children with diarrhea, their bodies really suffer. Water leaves their bodies and they dry up. They too need water like millet.
Okay, we should make the sugar salt water. For children with diarrhea, it's better than plain water.
Show me how you make it.
Well, first I get a sauce bowl. I fill it with water, that's one liter. It must be good water, clean water.
Good!! That's great.
Then secondly, I put eight sugars three fingers of salt two times, like this.
That's exactly right. And you know if you don't have cubes of sugar you should use two and a half tablespoons of granulated sugar.
Right. Then afterwards, I stir until the sugar and salt have dissolved.As soon as Aicha starts having diarrhea, I give

kay.

V: Walahi, ni ga wanni ga boori. Fonda goy! Hala ni izo ga sooru koyne ni ma'a konda loktoro kwara ga du safari, ni ma? Ni ma sobey ga'a nanandi nda nwaandi nda nwaari dumi-dumi kala a ma te dama, ni ma?

her this water all the time until the diarrhea stops.
You really understand this well. Greetings on your work. And if your child starts having diarrhea, you should take her to the dispensaire to get medicine for her, you hear? And continue to give her breastmilk and all different kinds of food so she gets her health back, you see?

M: To, ay faham. Fonda kokari!
I see. Greetings on your effort.

V: Ungwoya! Ni mo fonda kokari. Irikoy ma dama ton-ton a ga.
Thanks. You, too, greetings on your effort. And may God give her betterness.

M: To, Amin.
Amin.

V: Irikoy ma dogonandi.
May God make it easier.

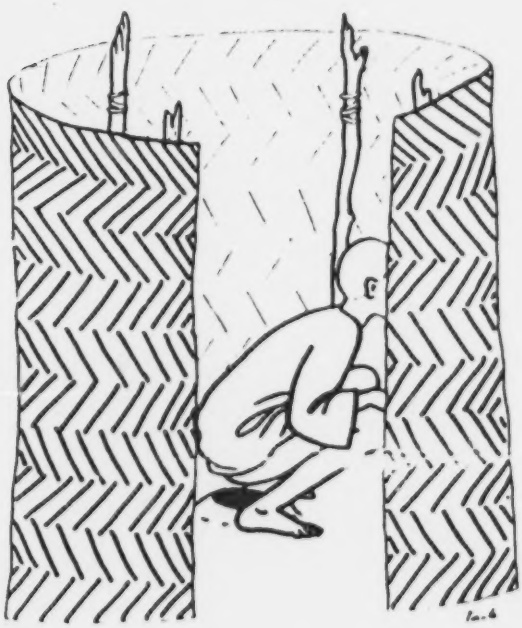
M: Amin. Kala ton-ton.
Amin. See you later.

V: To, Irikoy ma iri no alomar kuku.
Okay, may God give us long life.

Hygiene

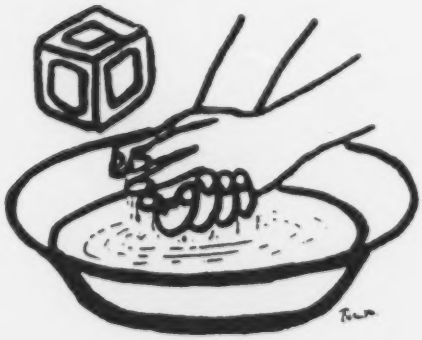
More than half of all illness and death among young children is caused by germs which get into the child's mouth via food and water. It is therefore important to stress that health messages, to be fully effective, must be acted upon by everyone in the community. These six messages can help families and communities to prevent the spread of germs and so reduce illness and deaths.

- Illness can be prevented by washing hands with soap and water after contact with feces and before handling food.
- Illness can be prevented by using clean water.
- Illness can be prevented by boiling drinking water if it is not from a safe piped supply.
- Illness can be prevented by keeping food clean and covered.
- Illness can be prevented by burning or burying household refuse.
- Illness can be prevented by using latrines. If it is not possible to use a latrine, adults and children should defecate well away from houses, paths, water supplies, and anywhere children play. After defecating, the feces should be buried. Contrary to common belief, the feces of babies and young children are even more dangerous than those of adults. If children defecate without using a latrine, then their feces should be cleared up immediately and either put down a latrine or buried.



Vocabulary list

the "bathroom" (euphemistically)	kosandi/kwara banda	la douche/la toilette/WC
bowls	tasey/tasayan	les tasses
broom	habirji	le balai
brown washing soap	nyumayan safun	le savon marseillais
to burn	ton	brûler
cleanliness	hananyan	la propreté
clean water	hari hanno	l'eau propre
a cover	dabirji	le couvercle
to cover	dabu	couvrir
diarrhea	sori/gunde kar	la diarrhée
dirt	zibi	la saleté
dirtiness	kazama taray/zibi	la saleté/le manque d'hygiene
disease	jante/zanay/bani janay	la maladie
dust	kusa	la poussière
flies	hamney/hamniyan	les mouches
good smell	haw kano	une bonne odeur
health	bani	la santé
a hole	gusu	le trou
insects	anwaarey/gangamize	les insectes
latrine	salanga	la latrine
mosquito	soboro	le moustique
odor/bad smell	hawfumbo	une mauvaise odeur
plates	farantize	les assiettes
prevention	bon sola/bon halasi	la prevention
protection	halasandi	la protection
soap	safun	le savon
soap powder	omo	le détergent
to spoil	sara/fumbu	gater
to sweep	habu	balayer
sweepings	fisi	saletés
to wash	nyum	laver
to wash oneself	nyunay/nyumay	se laver
water pot	fobu/kusu	le canari/la jarre
woven cover	fandu	l'éventail/le couvercle



Hygiene Messages

Nda ni koy kwara banda/salanga a hima ni ma ni kambey nyum nda hari nda safun.	After going to the bathroom, you should wash your hands with soap and water.
Nda ni ga ba ga nwari hina, a hima ni ma tasey nda kusey nyum a ma bori.	If you are going to prepare food, you should wash the plates and the bowls very well.
A hima nda ni ma ni batama habu watikulu, koyne I ma fiso ton gusu ra.	You should always sweep your house and concession, and afterwards you should burn the rubbish in a hole.
A hima nda ni ma ni bankaray nyuma a ma bori.	You must wash clothes very well.

Well Apron (French: margelle)

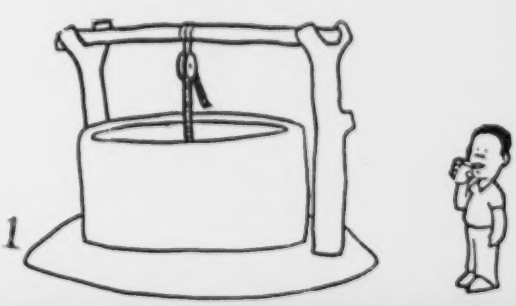
A well apron is a cement ring that is built around an existing cement well to improve sanitation and water hygiene. Well aprons prevent ropes and water buckets from dragging on the ground, which in turn helps keep the well cleaner by not introducing germs from the dirt and mud around the well where animals often gather. They are relatively inexpensive: the cement and ribar can usually be purchased with your work-related funds and the gravel, rocks, sand and water can be provided by the village. An easy how-to handout on installing well aprons is available from Hamdallaye or from the APCD/Agriculture. Some advantages and disadvantages of well aprons include:

- **Advantages**

    1. Durability-The apron extends the life of a typical well due to the protection of the area around the well.
    2. Cleanliness-The well area is kept cleaner and thus the water buckets and ropes which are used and placed on the ground nearby are also kept cleaner.
    3. Protection- The well is protected by the well apron from water entering the area immediately next to the well which can sink the well.

- **Disadvantages**

    1. A well apron is a relatively permanent structure and therefore can become a problem if the apron is used on a LWR style well and needs to be sunk (if the water table is lowering.)



Sensibilisation is extremely important when installing a well apron. In addition to understanding the importance of water hygiene and sanitation, the users of the well must know how to maintain it. The apron should be rinsed off with water regularly and repaired if it starts to deteriorate. If a village cannot afford a cement well apron, they could put rocks and large pebbles around the well to keep the area from getting muddy and to prevent the ropes and buckets from dragging in the dirt.

Well Apron Sample Dialogue

Women around a well...

Nafissa: Mate aran kani?

Women: Bani samay, Nafissa. Mate ni kani?
N: Bani samay. Mate hu?
W: Tali kulu si, mate ndunya gorey?
N: Kal dai sourou. Wa fonda kokari.

W: Ngoyya. Ni si ka ga guru hari kaina?

N: To, nan ay ma si, amma aran ga bey kan ay mana dona.
W: Cimi no , Nafissa, ni mana dona. Guna ni kambey. I ga banu motok. Ni si duru, ni si guru, ni si hina. Ni kambey si sandi danga iri waney.

N: Cimi no zama kalma no ay ga goy nda. A ga hayfunandi.
W: Ni gonda kokari, hambara gabi no si no (they laugh).
N: I na siminto tusu ga ban deyo ga, wala?
W: O, bi fo no I na ban.

N: Madalla, waliahi goyo bori. Aran ga bey hay kan se no i na sima dan newo?

W: Gaham bani fonda ra no, wala?
N: Dan ga mate cine?
W: To, ni ga bey dey kan hari bobo no ga hin ga furo deyo ra. I ga hin mo ga boro jantandi.
N: Mate no a ga te nda?
W: To, hala korfa kan ga loga candi ga zibi, zama se a ga furo labo kulu ra a ga hini ga haro zibandi.

N: Yadin, to ifo no go labo ra kan ga boro jantandi?
W: Alman tosi go nan kulu. Kurkey ga kande almaney ga hanandi. Tosey ra dorize bobo go no.

N: Cimi, to da ni na hari zibo han, ifo no ga te?
W: Ni ga jante. Dori ga ni di danga sori wala dira dira.

Nafissa: Women, good morning, good morning! How did you wake up?
Women: In health, Nafissa. Did you wake up well?
N: Very well. How did your family sleep?
W: Well. How's life in the world?
N: Have patience. Greetings on you effort!
W: Greetings to you. Why don't you come and pull water?
N: Let me try. You know I am not very strong.
W: Really, Nafissa. You have no strength. Look at your hands. They are soft. You don't pound millet. You don't pull water. You don't cook tuwo. Your hands aren't hard like ours.
N: Seriously. My work is only pushing pens. I have no effort.
W: No. You have effort. You just don't have strength.
N: They finished pouring the cement around the well, didn't they?
W: Yes, day before yesterday they finished.
N: That's good. The work is really good. Do you know why they put this cement here?
W: Because of well hygiene, right?
N: Like how, well hygiene?
W: Well, you know a lot of things go in the water. They make people sick (bring lack of health).
N: How?
W: Well, you know, the rope to pull water. If it falls on the ground then afterwards goes in the water, it puts dirt and filth in the well.
N: All right. What in the ground brings germs?
W: There's animal dung. Look at the herders. They bring their animals here to the well. In their dung there are a lot of germs.
N: Good. Okay, if you drink dirty water, what happens?
W: You get sick (lack of health). You get illnesses like diarrhea and dysentery.

N: Ahan! To mate no sohon aran go ga deyo halesi nda.
W: Cimi. Iri ga deyo cindo tusu hala a ma bori. Wodin banda iri si ta loga wala korfa ma furo labo ra.

N: Cimi, aran gonda kokari, aran ga bey kan gahaman bani arzaka no.

W: I, hanna dumi. Cimi no.
N: To, madalla. Irkoy ma albarka dan aran ma.
W: To, Amin. Irkoy ma iri hallesi.
N: Amin. Ay go ga koy.
W: To, fonda fakarey, Nafissa.
N: N'goyya. Wa fonda goy.

N: Aha. Okay, how do you take care of the well apron now?
W: Well, we clean it with water. We pour water on it so it's clean. And we don't let the rope fall on the ground. We don't agree (to let it happen).
N: No kidding! You all have effort. You know the saying "Health is prosperity."
W: That's for sure. That's the truth.
N: Well, may God give us blessings, you hear?
W: Amin. May God protect us.
N: Amin. I'm going now.
W: Okay. Thanks for the chat, Nafissa.
N: Great. Thanks to you.

Guinea Worm "Kurkunu"

Guinea worm is a thread-like parasitic worm that lives under the skin of its human host. Guinea worm disease, also know as dracunculiases, is not a killing disease but can be very painful and severely incapacitating, and can lead to secondary infections and tetanus.

The worm enters the human host through drinking water. The water is contaminated by an infected person who immerses his infected leg with an ulcer in the water source, and the larvae is released into the water by the worm. The larvae infects cyclops, small shellfish living in the water which acts as the intermediate host. The person who has consumed water contaminated with the infected cyclops will begin to suffer as the larvae matures in his body in a year and pierces the skin of the lower leg causing ulcers.

The time it takes for the worm to leave the body can be several weeks, and it can be very painful. People will often wrap the worm around a a stick pencil to facilitate its leaving. People must be careful, though, that the worm doesn't break, as this could quickly lead to infection. They should try to keep the area clean to avoid infection as well.

Guinea worm is entirely transmitted by drinking water. The contaminated water is typically from open surface sources such as stagnant ponds or step wells where one's leg can come in contact with the water. In Niger, temporary ponds form during the rainy season, and this is often when most people become infected. People will spend all day working in the fields and will often drink from these temporary ponds if the water they have brought from home has run out. Because the worm takes a year to leave the body, the rainy season is often the time when people are debilitated by the disease, unfortunately the busiest time or year for most people's work.

Guinea worm disease can be prevented by two means: treating water and maintaining a clean water supply. Treating water can be done by:

- filtering drinking water through a cloth;
- boiling drinking water;
- chlorinating drinking water.

Maintaining a clean water supply can be achieved by:

- sealing dug wells and step wells with sanitary covers;
- installing hand pumps.

Guinea Worm Vocabulary List

fields	fari	les champs
guinea worm	kurkunu	le ver de guinée
legs	ce	les jambes
pagne	zara	le pagne
pond	bongu	la mare
prevention	bonzaayan	la prévention
rainy season	kaydiya	la saison de pluies
to strain	kokosuyan	sasser
to swallow	gonyan	avaler
swollen	fusuyan	gonflée
worm	noni	le ver

Guinea Worm Sample Dialogue

People working in fields

Men: Fofo, Nafissa!
Nafissa: Ngoyya. Fonda goy!
Men: Ngoyya Mate ni go?
N: Alhamdulilahi. Mate kaidiya?
Men: Alhamdulilahi. Mate ndunya goray?
N: Kala sourou. Mate aran do haray?

Men: Tali kulu si. Mate gaham?
N: Alhamdulilahi. Mate faro? Data hayno sintin ga nin?
Men: Iri n'irkoy sabu. Iri go farimo ga.

N: Cimi no. Hunkuna gonda dungay, walla?
Men: Yadin no. Wayna ga hottu hunkuna.
N: Data ni ga haro jare ni bande?

Men: To, amma watifoyan da'a ban iri ga ka bangey ga han.

N: Haba? Kunkuna si ne harey no?
Men: A go no I hanna dumi. To, mate iri ga te d'iri jaw?

Men: Greetings to you, Nafissa!
N: Thanks. Greetings on your work!
Men: Thanks thanks. How are you?
N: In health. How's the rainy season.
Men: Rainy season, thanks be to God. How sits today?
N: Well then. Have patience. How are things in your place?
Men: They are well. How is your body?
N: Thanks be to God. How's your field now that the millet is starting to be ripe?
Men: We thank God. Here we are plowing.
N: That's just right. It's hot today, isn't it?
Men: Really. The sun is really beating today.
N: Do you come with water when you go to the fields?
Men: Yes, we come with it, but sometimes if it's gone and we're thirsty, we take it out of the pond and we drink it.
N: Really? Is there not guinea worm here?
Men: There is. But what are you supposed to do if the water finishes.

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N: Ni bey, ni ga hini ga zara hanno dan ga haro kokosu, wodin ga nan ni ma wa kurkunu wala noni.

Men: Haba! Cimi no?
N: Ni ga bey mo kan kurkunu ya balawu no. Aran kwaro gonda boro kan kurkunu zeri?
Men: A gono i hanna dumi.
N: I go ga goy sohon?
Men: Habada. I go ga furu ganda. I si hini ga haykulu te. I cey kulu no fosu.

N: Ni di walla. Sohon binde kaydiya no. Goy lokaci no. Nda ni si hin ga goy fari ifo no haya hima nda?

Men: Cimi no. Tabi ga te nda boro mana goy.
N: To ni di? A binde boro ma wa kurkuno si tabandi. Tun nda hinay ba ganji haw.

Men: Cimi no. A hima iri ma haro kokosu nda zara hanno hala iri ga han.

N: To, madalla. To, fonda kokaro. Irkoy ma albarka dan.

Men: Amin. Kala nda tonton noya.

N: Amin. Iri ma foy bani.

Men: Iri ma foy da gomni.

N: You know you should bring a clean pagne then. You should strain the water before you drink it. That way you don't swallow guinea worms and worms.
Men: Really?
N: And you know this guinea worm, it's evil. There are folks with guinea worm in this village aren't there?
Men: You bet there are.
N: Are they working now?
Men: Now they're not. They're just lying down. They're not doing anything but lying down. And their legs are all swollen up.
N: You see. And here we are in the rainy season. It's the time for work, right? If you don't work in the fields, what do you do?
Men: Really. We're up a creek if we can't work.
N: You see. But the prevention of guinea worm, it's not difficult. And you know, an ounce of prevention is worth a pound of cure.
Men: Really. We should keep coming a pagne. If we drink pond water, we should strain it.
N: That's great. Greetings on your work, you hear? May God give us prosperity.
Men: Amin. May God leave us together.

N: Amen. May we spend the day in health.

Men: May we spend the day in grace.

Salt Water for Conjunctivitis

Eye infections are very common here, especially during the cold season and Harmattan winds. Treatment, with warm salt water, is simple and effective. It is important to use a clean pagne and to wash the eyes from the inside of the eye to the outside. This should be done three to four times a day.

Salt water is also effective for soaking minor scrapes and wounds. Add some salt to warm water (until it tastes like tears) and soak the scrape or wound three to four times a day. Keep covered during the day against flies but let it breathe at night. When it has completely scabbed over, you can leave it uncovered during the day as well.

Vocabulary List

boil	wasandi	bouillir
conjunctivitis	mo dori/apolo	la conjonctivite
dirt	zibi	la saleté
dust	kusa	la poussière
enamel bowl	tasa	la tasse
eyes	mo/moiize	les yeux
filth	kazama	la manque d'hygène
flies	hamney/hamni bi	les mouches
medicine	safari	les medicaments
salt	ciri	le sel
scrapes	mortu	les blessures
sores	bi	les plaies
taste	taba	goûter
tears	mundi	les larmes
three times	soro/ce hinza	trois fois
to wash	nyum	laver
wind	how	le vent

Sample conjunctivitis health lesson

Conjunctivitis	Mo dori
Okay, now we are going to talk about conjunctivitis.	To, sohon ir ga salan mo dori bon.
Flies and dirt ruin cleanliness.	Hamney nda zibi ga boro ganji hananyan.
Dirt and flies in the eyes give children conjunctivitis.	Da aran izo gonda mo dori, aran ma konda lokotoro kwara.
If you child has conjunctivitis, you can make medicine at home.	Da aran izo gonda mo dori, aran ga hin ga kwara safaray te.
You heat water until it boils. Fill a clean sauce bowl with the water and add two pinches of salt with three fingers.	Aran ma hari dungandi. Aran ma dan tasa ra. Aran ma ciri kayna dan a ra. (kambrize hinza ciri).
Taste it and it should taste like tears.	A taba yan hima ama hima mundi.
When the water is warm, wash your child's eyes with a clean cloth and this solution three times a day: in the morning, the afternoon and at night.	Da haro dungaro zabu, aran ma aran izo moizay nyum da kele kan ga hanan ce hinza: susubay, alula da lalsa.
Make sure to wash the eyes thoroughly and take all the dirt out.	Aran ma moizey nyum gumo kala ama bori.
You must always shoo the flies away from his eyes because flies aren't clean.	Aran ma hima ga hamni nan moizey bon.
A child with conjunctivitis should not play with healthy children because the healthy children could get sick.	Zanka kan ga mo dori go ma si foru nda zanka cinday.
Also a child with conjunctivitis should sit in the shade because the sun could make it hurt more.	Aran ma si nan zanka kan ga mo dori go ma goro wayno ra.
Okay, you protect your child from getting conjunctivitis : *by washing his eyes; *by keeping him from playing with sick children; *by shooing the flies from his eyes.	Aran ma aran izay: *moizey nyum; *aran ma si nan a ma foru zankey ra; *aran ma hamney garay moizey ga.
In addition, this salt solution is very useful in cleaning and healing minor cuts and scrapes.	Ciri haro ga hin ga te bi nyumyan se.

Conjunctivitis Sample Dialogue

Volunteer: Fo-fo!
Mother: Ungwoya! Mate ni go?
V: Samay dey no. Mate ni kani?

M: Ban'samay! Mate gaham?
V: Tali kulu si. Mate zankey?

M: I ga sabu. Ama Aicha gonda mo doori.
V: Jam! Inga dey no kan ni go ga hampa, wala? Ma'a zumbandi nda ay ma di a.
M: O-ho, inga dey no. Ni di? Susubey inga moiize man ba hai. Manti ni gonda safari no a ma han wala mooti ga dan I ga?

V: Walahi, ay sinda. Loktoro kwara dey no gonda. Amma ni ga hin ka te hai fo fuo ra a se. Ni bumbo ga hinna.

M: Haba?
V: Wallahi. Ni bey mannan mansan cine ay mo du mo doori. How nda kusa kande ay se. Ay moiize mo man du ga hai. To, ni bey mate kan no ay te--Ay hari wasandi. Wodin banda kan a ye kaina ay dan cire kainiyo. A man ba gumo. Hari nda ciri margante ga hima mundi kan ni ga'a taba. Wodin banda ay sambu zara kan sinda zibi kulu. Wo kan ga hannan gumo. Ay dan zara haro ra ga ay moiize nyum nda. Ya cine ay te soro hinza han kulu: susubo, kan zaro to, nda wiciri kan bu kala a te dama. Sohon ay ga Irikoy sabu.

M: Haba? A si sandi gumo wiza. Kan ay ga ye fu ay ga'a te Aicha se.

V: A binde, ni ma gare hamani bi kan ga ka inga moiize ga. Ingey dey no ga kande zibi a ga.
M: Cimi dey no. Hamni biyo ga la-la, fa.
V: Walahi, nda ni bey han kan hari wodin cine no ga hin ka bio safar mo. Ni ma hari dungandi, dan ciri ga bio nyum nda. Hari yao cine gonda nafa ibobo.

M: Cim kwrray. Ay ga koy fu ga'a te Aicha se.

V: To, a boori. Irikoy ma booriandi

M: Amin. Fonda goy!

Volunteer: Hello!
Mother: Hello. How are you?
Just fine. Did you wake up well?
Very well. How's your body?
No problems. How are your children?
They woke up well. Except for Aicha, she has conjunctivitis. I'm sorry. Is this her on your back? Take her down and let me see.
Yes, here she is on my back. You see? This morning she couldn't even open her eyes. Don't you have any medicine or ointment I can put on her?
No, I really don't have any. Just at the dispensaire. But there is something you can do at home. You can do it yourself.
Really?
Yeah really. You know last year at this time, I too, had conjunctivitis. The wind and dust brought it to me. I couldn't open my eyes. So what I did: I boiled water. When the water had cooled I added a little salt, not a lot. The water and salt together should taste like tears. Then I took a pagne without dirt, a nice one. I put it in the water to wash my eyes. I did this three times a day: morning, noon and late afternoon until it got better. Now I'm better [thanking Allah]

Really? This is not hard. I'm going home to make it for Aicha.
And you know you need to chase away flies that land on her eyes. They bring the dirt.
No kidding. Those nasty flies,
Really, and you know you can use this water if you have cuts or sores. Just heat the water, add salt and wash the cuts with it. It has a lot of uses, this warm salt water.
It's true. Let me go home and make it for Aicha.
Okay, good. May God make it better.
Amen. Okay thanks.

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Vitamin A

All children need foods rich in Vitamin A.

- Over 200,000 children go blind every year because they do not have enough Vitamin A in their bodies. Vitamin A may also protect children against other illnesses such as diarrhea. It should therefore be a part of every child's daily diet.

- Vitamin A comes from breastmilk, dark green leafy vegetables, and from orange and yellow fruits and vegetables such as carrots, papayas, and mangoes.

- If a child has had diarrhea or measles, Vitamin A will be lost from the child's body. It can be replaced by breastfeeding more often, and by feeding the child more fruits and vegetables.

Vocabulary list

amaranth leaves	capata	les feuilles d'amaranth
baobab sauce	ko foy	la sauce baobab
blindness	danawtaray	la cécité
carrots	karoti	les carottes
cooked leaves*	kopto hinante*	les feuilles vertes cuites*
eggs	gunguri	les oeufs
green leaves	kopto tayo	les feuilles vertes
hot pepper	tonko	le piment
liver	tasa	le foie
mangoes	mangu	les mangues
maringa	windi bundu	la maringa
measles	dobu dobu	la rougeole
milk (fresh)	wa gani	le lait frais
milk (powdered)	wa hamni	le lait en poudre
nightblindness	dandumi	la cécité nocturne
papaya	dandi mufa	la papaye
peanut leaves	damsi kopto	les feuilles d'arachides
red palm oil	manza ji	l'huile de palme
red pepper	tatassey	le poivron rouge
squash	laptanda	la courge
vegetables with color	kopto bogay	les légumes verts

generally prepared with peanut butter or pounded kouli kouli

Vitamin A Sample Lesson

Hunkuna, iri ga fakaray nwarey kan ga dandumi safar bon. Ifo ga ti dandumi? Nda cino to boro si di ga bori, wodin se no I ga ne dandumi.

Today we are going to talk about food which has medicine for nightblindness in it. What is nightblindness? At nighttime or at dusk, if you don't see very well, that's nightblindness.

Ifo no ga dandumi te boro se? Nwari kan gonda vitamin janay ga te boro se dandumi zamayan ga te boro se dandumi.

What causes nightblindness? Measles causes nightblindness. Not eating food rich in Vitamin A causes nightblindness. Malnutrition causes nightblindness.

Ifo no boro hima ga nwa nda boro gonda dandumi? A hima boro nwa tasa, dandumi safaray'ra. A hima boro nwa kopto bogy, sanda jisima nda capata nda ko foy. I m'I dan foy ra wala boro m'I hina sanda kopto ga nwa. A hima boro ma nwa kali na dumizey sanda mangu, karoti nda laptanda, nda dandi mufa (papaye). Dumize kulu kan go kali ra kan ga ciray gonda dandumi safari inga ra.

What should you eat if you have nightblindness? You should eat liver, which has medicine for nightblindness in it. You should eat green things, like soure and yakwa and baobab leaves. Either put them in sauce or make kopto with them. You should eat fruits and vegetables like mangoes, carrots, and papayas. Anything that you plant which has a green, orange or red color has medicine for nightblindness inside.

Habu kulu nda I ga zanka no tasa ba dala gu wone a ga wa nda dandumi. Koyne weyboro gunde koy hima a ma nwa nwari kan gonda vitamin, a ma du ga wa nda dandumi.

Each week, if your child eats even 25 francs worth of liver, then he receives protection against nightblindness. And a pregnant woman should also eat food with vitamins in them and she as well will be protected against nightblindness.

Vitamin A Sample Dialogue

Entering a Concession

Nafissa: Kok kok. Assalamalekum!
Mariama: Kubeyni, Nafissa.
N: Mariama, mate ni kani?

M: Bani samay walla. Mate ni go?
N: Bani samay walla. Mate zankey?
M: I ga irkoy sabu wallahi.
N: Mate jirbi hinka?

M: Tali kul si, I ga irkoy sabu.
N: Mate farga?

Nafissa: Kok. Peace be with you.
Mariama: Welcome to Nafissa.
N: Mariama, how did you pass the night?
M: In health. How are you?
N: Very well. How are the children?
M: They're in good health.
N: How have the past few days been?
M: Thanks be to God.
N: How's the tiredness?

M: Farga si no wallahi.
N: To, jirbey ma si dirgan ga ka nesiyan.

M: Yadin no, lokoco man moru. Ay fonda guna alarba hane.
N: Ni gunda handu marje sohon?

M: Handu iddu.
N: Handu iddu sohon, ni ga ban?

M: Ay ga irkoy sabu, amma cini ay si di. Ay ma di bitamin wala safari kan ga han?

N: Wallahi, a si no. Amma ay ga sikka kan dundummi no. A ga fala gundakoy nda zanka ga.

M: Wayyo! Wallahi, Nafissa, nda wayna kan ay si di koyne.

N: Irkoy beri. To, ni bey hay kan a hima ni ma te. Ni ma dona nwari kan ga ni wa dundumi. Ni ga faham I se wala?

M: Wallahi, ay si bey.
N: Tasa, nwari no kan ga ni wa dundumi.

M: Haba?
N: Wallahi. Habu kulu ni ma du kayna kan ni nwa. Ni ma nwa mo turize danga mangu, gisima kopto nda laptanda. Ni ma waha. I kulu gonda dundumi safari ira. Ni ma ci ni kurnye se a ma dey ni se tasa nda kali dumi ize.

M: To.
N: Irkoy ma kande bani, ni ma?

M: Amin.

M: No tiredness, really.
N: You'll be coming to prenatals in the next few days, won't you?
M: Yes, the time has almost come. Next Wednesday I'll go.
N: How many months are you now?
M: It's like this now.
N: Aha. Six months now. Are you in health?
M: I'm fine. But at night I don't see. Do you not have some vitamins or pills I can take?
N: There aren't any. But I think you have nightblindness. Sometimes pregnant women and even children get it.
M: Wow. Really, Nafissa, when the sun goes down I don't see at all.
N: Too bad. You know what you can do? Keep eating good food, the kind that has medicine for nightblindness in it. Do you know it?
M: I really don't know it.
N: Food like liver. It has medicine for nightblindness in it.
M: Really?
N: Allah, and you don't need to eat a lot. And keep eating vegetables and mangoes and green leaves and squash, ok? They all have nightblindness medicine in them. Tell your husband to buy you liver and vegetables, okay?

M: Okay.
N: May God help you to recover, you hear?
M: Amen.

Sensibilization

How can a volunteer get villagers to realize woodless construction isn't only about strong houses, it's also about environmental conservation? How can a volunteer explain the economic and nutritional benefits of rabbit raising to market-minded villagers? These are problems of sensibilization. Many of the best-planned projects have fallen short of their mark or careened wildly off in the wrong direction due to a lack of proper sensibilization.

Sensibilization is a tricky process of choosing the right media to transmit the correct message to a particular audience. A large group of farmers may profit best from a DRS slide show, but an improved cookstoves pagiavolte may be better suited to small groups of women. Identifying the intended audience and choosing the proper means of sensibilization adds to the success of any project.

Added to these choices are the complications of performing all the tasks of sensibilization in national language. It is important to find a method of sensibilization which matches your level of national language. For more complex methods of sensibilization it may be a good idea to have your best friend who understands your particular "brand" of Zarma become your assistant animator to help others get the true meaning of your message. He can also help you understand the feedback villagers give you during a session.

Many of these types of sensibilization can be funded through the work-related funds available to all volunteers. Check with your APCD first to verify your current work-related funds balance. Then make your purchases, keep your receipts and turn them in for reimbursement at the bureau.

Pagiavoltes

Audience:	small groups, individuals
Existing themes:	live fencing, improved cookstoves, natural regeneration, gardening for nutrition, breast-feeding, well sanitation, maison sans bois, DRS, secouristes, tree outplanting, latrines. Also available from dispensaire or Centre Medicale: many health-related themes, e.g. malaria, vaccinations, vitamin A, family planning, guinea worm, etc.
Language-level needed:	medium
Duration of presentation:	15-20 min.

Pagiavoltes are informal ways of presenting simple messages. They are most effective with small groups, so it is possible to walk around the village with one and present it wherever one finds a group of men sitting and chatting or women pounding. They are primarily a way of encouraging dialogue about a certain subject and guiding the viewers toward a specific intended outcome, i.e. live fencing is good, well sanitation helps keep your family healthy, etc. Open-ended questions meant to generate answers from

the audience itself are always the best.

Each Peace Corps produced pagiavolte can be found at the bureau or possibly at the various hostels around Niger. If a copy is not available, the original images are available for copying and transfering to cloth. Each pagiavolte has a written teaching guide (fiche pedagogique) in English and French. These, along with other pagiavolte information, can be found in the resource center in Niamey and the APCD-Agriculture office.

Slide shows (diapos)

Audience:	large groups
Existing themes:	DRS (AFSI Ouallam and Torodi) Maison sans bois (Development Workshop) Rabbit raising (AFSI Ouallam)
Language-level needed:	medium-high
Duration of presenation:	30 min- 1 hour

The usefulness of a slide show for your sensibilization needs relies primarily upon the availability of the necessary equipment. The PC Bureau in Niamey has some solar-powered/car battery projectors for loan to volunteers. Other projects, such as Projet Agro-Sylvo-Pastoral (PASP) have car battery-operated projectors that they may allow one to borrow. Peace Corps-Niger also has a projector that runs on a generator. The best option is to check on the resources available in your area.

Aside from the existing themes, volunteers are encouraged the create their own slide show presentations. There are cameras, slide copiers, and funds available to produce slide shows for volunteer use. Check with your APCD first, and then begin planning out the objectives that you want to cover and think of the images that would help you fulfill them. Slide film can be purchased in Niger, but it is rather expensive. Slides can be developed here as well, but it is also expensive and time-consuming. Your APCD will have information about getting work-related slides developed in the United States and sent back here through the diplomatic pouch.

Theatre

Audience:	small or large groups
Existing themes:	variable (be creative!)
Language-level needed:	low-medium
Duration of presentation:	30 min.

Theater presentations can serve to animate a target audience by presenting a message in a traditional and often entertaining medium. Skits can be created from any theme and performed by any group, adults and children alike. Theater groups might be formed with school children, matrones or secouristes, literacy groups or adults from different quarters in your village. Props can be materials found in homes and the participants can create the dialogue themselves after deciding on the themes.

Length of presentations may vary, but often times 5-10 minutes is enough to present a message clearly without losing your audience. Local functionnaires can also be involved and will help to promote sustainability in the village. Theater groups with which Niger PCV's have bén involved have presented the following themes: vitamin A, natural regeneration, vaccinatoin, balanced diet, soil restoration, and hygiene. The possibilities are endless.

Helen Keller International has been very extensively involved in vitamin A theater groups in the Tahoua department and has sponsored theater festivals on the promotion of liver and leafy green vegetable consumption.

Model Sites - Field Trips

Audience:	entire village or small field trip group
Existing themes:	various (see below)
Language-level needed:	low
Duration of presentation:	one day to all year long

Preparing model sites in the village and taking a group of villagers on field trips to model sites have proven to be some of the most effective methods of sensibilizsation. Digging your own DRS site in a degraded field not only shows villagers the proper methods of DRS, but it also gives you, the volunteer, a better understanding of the nature of the work. Taking villagers to see a recessional agriculture site under cultivation is a striking way of bringing home the technology and letting villagers hash it out with farmers who are actually doing the work successfully.

Making a model site in the village has many advantages. It allows all of the villagers to have access and shows the technology at work under the exact conditions they themselves work with. It also allows villagers to see the progression of work and how it proceeds throughout the span of a year. Model sites, however, are limited because they can't show long-term effects immediately or expose villagers to people who currently understand the technology and can explain their successes and failures.

Field trips, on the other hand, are extremely effective at exposing villagers to the final outcomes of long-term projects and allowing them to discuss the process with farmers who understand and are anxious to share their knowledge. Most farmers consider it an honor to have visitors coming to see their work and are more than happy to show others how much they know. Field trips can be difficult to arrange, however, due to lack of transportation or a lack of suitable sites within easy traveling distance. Also, field trips only expose a small group of villagers to the knowledge; getting this group to transfer the information to others back in the village becomes yet another challenge.

The ideal situation would involve a combination of a model site in the village plus a field trip to show villagers concrete proof of the technology's success. For instance, mark and clear a villager's field to promote natural regeneration as a model, and then take a field trip to see a site that has been successfully managed for a number of years and shows signs of recovery.

When arranging a field trip, make sure to preview the site ahead of time. Check with farmers and ask if they would mind having some people come to see their work. Also take note of physical conditions which may differ from your village at the field trip site. If the wildly successful garden site you visit has a water table of three meters and your village's water is 25 meters deep, villagers will be skeptical about a possible transfer of that type of work into their situation.

There is a wide range of possibilities for sensibilizing with field trips and model sites:

Model sites in village:	Field trips:
-DRS*	-Gardening*
-Rabbits	-Live fencing*
-Stoves	-Wind breaks
-Vitamin A planche	-Water-lifting devices
-Fruit tree grafting*	-Maison sans bois*
-Non-irrigated rice*	-Recessional Agriculture
-Natural regeneration*	-Dispensaire
	-Fisheries
	-Dune stabilization

*indicates that it can be successful with model sites in the village or as a field trip.

Murals

Audience:	whole village, school children
Existing themes:	tree planting, improved cookstoves, world maps, health themes
Language-level needed:	low
Duration of presentation:	indefinite

Murals, world maps in particular, are often an excellent beginning project for volunteers because they don't require high levels of language and materials needed (paint, paint brushes) can be purchased with work-related funds. Murals serve as excellent conversation points and can liven up the "brown-ness" of any public building with a cement wall. Painting murals can be a school activity where all of the kids participate or you can do it with several adult friends if the painting is detailed.

Volunteers often paint murals on the walls of village schools. Some paint them on an outside wall where passersby can see them and, in the case of an educational mural, dscuss the message amongst themselves. Others paint them inside the classroom so that they are not damaged by the sun and rain and, particularly in the case of world maps, so that the teachers and students can actively use them.

Care should be taken when doing an educational mural to sensibilize the village about the message being presented. The message will need some

type of follow-up (a stove building demonstration, a wood conservation discussion, a family planning campaign, etc.) so that the message is not lost.

A world map how-to manual can be found in the APCD-Ag office and how-to graphs can be made for educational murals.

Experts

Audience:	entire village or focus groups
Existing themes:	variable (be creative!)
Language-level needed:	low
Duration of presentation:	indefinite

Most of the information and methods we try to transfer to our villagers are already being successfully practiced here and now by Nigeriens. Thus it remains to us to find these experts and connect them with villagers who need their knowledge and skills. Who better to explain the workings of a successful caisse system to a village starting a co-op than someone in charge of a thriving caisse in another village? Not only do they have the knowledge and practical experience, but they know how the knowledge fits into their mindset and can express themselves in local language to explain it.

The range of areas for expert interventions in a village project is quite broad. Some possibilities include:

-Expert gardeners
-Men with substantial DRS knowledge
-Sanitation agent from CM/PMI
-Caisse manager from successful village
-Fruit tree grafter
-Local agricultural agent
-Expert rabbit raiser

Finding these people should be a carefully thought out process. First, identify your intended audience or focus group. If the gardeners in your village are mainly women, think about finding a woman garden expert to come to the village to present a mini-training. Then start looking for possible experts. The best people are often those who aren't at the forefront spouting off about how much they know. Spend some time in the village and talk to elders about people who reallly understand (wanni) their work. The agriculture agent who works in the area may also have some good suggestions.

Once the expert has been chosen, develop a plan and schedule for the time they will spend in the village. Outline specific objectives to be fulfilled, such as practice planches dug in the community garden or catchments dug at a DRS model site. Make sure that all the sites and materials (seeds, shovels, scions for grafting, etc.) are ready when the expert arrives. Also be sure to prepare your villagers for the experts, explaining the reason for their presence and encouraging them to go see the expert at work. Choose model

sites that are visible or along roads so people can have easy access.

Since you have specific needs and the experts should actually be working, some form of compensation should be arranged. Payment in money, seeds, rabbits, etc. should be worked out, along with arrangements for their food and lodging in the village during their stay.

Home Visits

Audience:	individuals
Existing themes:	various possibilities (see below)
Language-level needed:	low-medium
Duration of presentation:	15 min.-all day

Home visits are a great way for volunteers to get to know villagers, learn language, and identify needs in the village while addressing certain focus work areas. It can bring volunteers closer to Nigerien family life and provide valuable insights not seen elsewhere around the village. Certain skill areas are well-suited to home visits:

-Health
-Hygiene
-Animal care
-Stoves
-Concession gardens
-Concession tree planting
-Language/culture learning

These visits are individual and informal and bring volunteers closer to the village system of doing things. By having a specific focus for home visits, such as animal care, you can go and visit several concessions and have casual conversations about animal care and ways to improve it. This is a good way to connect with women who spend more time alone or in small groups within their concessions.

Village Meetings

Audience:	whole village-focus groups, quartiers
Existing themes:	various
Language-level needed:	medium-high
Duration of presentation:	not to exceed 1 and a half hours.

As a form of sensibilization, village meetings have limited effectiveness. Topics of general interest such as live fencing or family plannig can be discussed as a way to guage interest and generate conversation. But village meetings are not suited to things such as stove building, planche digging, etc. Village meetings are usually more suited to decision-making or communicating needs.

If a large meeting is meant to sensibilize villagers about a certain idea or skill area, it is essential to follow up the meeting with some more specific activity such as a field trip or a visit by an expert. Meetings can't stand by themselves.

The meeting should have a specific focus, and in order not to stray form the

program it is often helpful to have a villager nearby who understands your Zarma and can guide things back on track when it gets out of hand. A more detailed discussion about holding meetings can be found in the "Village Meetings" section of this manual.

Open-Ended Questions

A key factor in any form of sensibilization is the ability to generate information from within the audience. This gives the information presented and the conclusions reached a sense of ownership among the audience. There are various types of questions and dialogue techniques which encourage audience participation and allow conclusions to become the natural outcome of the conversation rather than statements dropped down from the volunteer.

Foremost among these techniques are the "open-ended" questions, such as "Why did they do such-and-such?" or "What did you do next?" Asking "how?" and "who?" can also help people open up and and actually lead themselves to the right conclusions. Pagiavolte fiche pedagogiques have good examples of open-ended questions used in actual presentations. It takes a lot of practice to not always say things like "Do three rock stoves use more wood than improved stoves?" Stick with it and try to say as little information yourself as possible; seek ways to get your audience to come around to it themselves.

You'll also come across ways that your villagers themselves use to start conversations and teach each other. Some people self-efface themselves by saying things like "Y'know, I'm not nearly as good at these things as you all are, and I don't really remember how to do it. Who can remind me how?" This lightens things up and really seems to get the audience to open up.

The following dialogues show the differences between a discussion guided by open-ended questions and one that is left to founder on its own.

Open-ended question starters

Who?	may?	Qui?
What?	ifo?	Quoi?
When?	waati fo?	Quand?
Where?	man?	Où?
Why?	ifo se?	Pourquoi?
Which?	wo fo?	Lequel/Laquelle?
How?	mate?	Comment?
How many/How much?	marje?	Combien?
Since when?	za waati fo?	Depuis quand?

Maison Sans Bois Vocabulary List

brick	fareeji	les briques
to build	cinna	construire
to cut down	wi/beeri	couper

environment	saaji	l'environnement
logs	turi tiksa	la bûche
mason	mason	le maçon
mud	botogo	le banco
seko mats	dala	le seco
thick	warga	épais
traditional	zarma wo ne	traditionel
tree	turi nya	l'arbre
wall	myur	le mur
wood	turi	le bois
woodless construction	fu kan sinda bundu	la construction sans bois

Sample Dialogue 1-Poor questions

[volunteer and a group of men touring a maison sans bois]

Volunteer: Have any of you seen a maison sans bois before?

Men: No.

V: Do you understand how they are built?

M: No.

V: O.K., let me explain.....

[long explanation]

V: So, why are MSB's better than traditional houses?

M: We don't know.

V: Is it because they're stronger?

M: Yep.

V: Or is it because you don't kill trees to build them?

M: Sure.

V: Are MSB's good for the environment?

M: We don't know.

V: But didn't you just say that you don't have to cut down trees to build them?

M: Yes.

V: Then that makes them good for the environment.

M: O.K., you're right.

Volunteer: Aran di fu kan sinda bundu ce fo, wala?

Men: Ha'a.

V: Ni ga bey mate kan no I te ga cinna, wala?

M: Ha'a.

V: To, hangan ga ma.....

V: To, ifo se fu kan sinda bundu ga boori nda garu kan gonda bundu?

M: Iri ga bey no.

V: Hambagar zama I ga gabu nda?

M: O-ho.

V: Wala zama ni si turi wi kan ga'I cinna?

M: O-ho.

V: Fu kan sinda bundu ga boori saajo se, wala?

M: Iri ga bey no.

V: Ama manti ni ne sohon kan ni si turi wi ga I cinna?

M: O-ho.

V: Yaddinga, I ga boori saajo se.

M: To, ni ga cim.

Sample Dialogue 2-Good questions

[volunteer and a group of men touring a maison sans bois]

Volunteer: O.K., now you've seen a . MSB. What difference did you see between them and your traditional houses?

Men: MSB's stack their bricks differently.

Volunteer: To, sohon aran di fu kan sinda bundu. Fayanka fo no aran di fu kan sinda bundu nda aran garuyan gamma ra?

Men: Fu kan sinda bundu fareeje dakeyan manti a fo.

V: What? I don't understand.

M: Look-it has big bricks on the bottom and small bricks up high. And the big bricks are turned to make a thick wall.

V: What does it do to turn the bricks like that?

M: It makes the wall strong.

V: That's right. It's strong. The mason told you all that MSB's are easier than a traditional house. Why?

M: Because there are no big logs, no sekou mats, and no sticks. It only uses banco. People don't go in the bush to kill trees.

V: Why is it good that people don't go out to kill trees?

M: Because we have to go so far away to get trees. Our land doesn't have many trees now. Even if you buy wood it's expensive.

V: But you can't build them by yourselves. What will you do if you want a MSB?

M: Now we've seen a house and the mason that built it. We can come to him and discuss building a house.

V: That's great. May Allah bring us all together again.

M: Amen. If Allah wills it, we'll see each other again.

V: Mate? Ay si ga faham.

M: Guna-a gonda fareeje beeri ganda nda fareeje kaina bene. Nda fareeje beeri na I barey hala a te myur warga.

V: Ifo no a ga hanse hala I na fareeje bery ya cine?

M: A ga dan gabi a ga.

V: Yaddin dey no. A gonda gabi. Mason boro ci aran se kan a gonda dogoney nda aran garuyan. Ifo se?

M: Zama a sinda bundu, a sinda dala, a sinda sariize. Botogo konu go a ga. Borey si koy saajo ra ga turi wi.

V: Ifo se a ga boori kan borey si koy ga turi wi?

M: Zama iri ga koy hala nongo mooro ga du turi. Iri labu sinda turi ibobo sohon. Ba ni ga dey turi a ga cada.

V: Ama aran bumbo si wanni. Ifo no aran ga te hala aran ga ba fu kan sinda bundu?

M: Sohon iri di fuo nda masono kan a cinna. Iri ga hin ga ka a do ga fakare fu cinnayan bon.

V: To, madala. Irikoy ma iri cebe cere.

M: Amin. Nda Irikoy ba, iri ga di cere koyne.

Village Meetings

Village meetings can be very important tools of sensibilisation, organization or means of communication/decision-making. As a means of sensibilisation, you might hold a meeting to discuss:

- the benefits/disadvantages of live fencing;
- family planning issues with groups of men and women;
- the conservation and money-saving advantages of woodless construction (CSB).

An organizational meeting might be held to:

- choose the members of a seed bank committee;
- delegate work responsibilities for the construction of a well (who will bring the sand, rocks, gravel and when)
- decide the watering schedule for a village pepiniere.

A communication/decision-making meeting might be held to:

- decide the best location for a drinking water well;
- determine the village contribution for a new village school;
- inform the village about a gardening expert from a neighboring village who will be coming to conduct a gardening stage.

A. How to prepare for a village meeting

Communication with village members is the first step to holding an effective village meeting. In your own village and especially in a brousse village where you might not know the village power structure, ALWAYS contact the chef du village first to let him know of your plans and the reasons for the meetings. Then ask him to gather the people together either by word-of-mouth or through the town crier. Most villages will have a meeting spot (the front of the chef's house, the village mosque, or a wide open town square area) where meetings are generally held. The nature of your meeting will determine which group (men or women) will most likely attend, as seldom will they all meet together. Women might generally be freer to meet in the early afternoon or in the evenings, depending on your region. Children are less likely to be around in the evenings (a positive aspect). Sometimes "goro" may be appropriate to give to someone at the meeting to distribute, but this is a purely an individual thing.

B. How to conduct a meeting

To be effective, meetings should be as focused as possible. The following points were offered by Geoff "Joffo" Geurts of AFSI Torodi:

- Sit next to the chief, samaria, important meeting participants, and if possible next to someone who really "hears your Zarma". Whenever possible, have someone else lead the meeting, leaving you to keep the discussion on track.
- Open the meeting with a welcome such as "Salaam alekum, jamma" followed by several greetings/questions pertaining to the season, weather, village or agriculture period.
- Announce the topics to be covered during the meeting. Try to limit them to two or three. The topics can even be announced by the town crier in advance.
- Discuss topics one by one. Allow ten minutes or so after each topic for discussion/questions, then pass on to the next topic.
- After discussing the topics, have an open discussion/decision making time. Make sure that something has been decided on each topic and everyone is sure of his/her responsibilities. Get the names of the people who are responsible for each task (i.e. Tanko is responsible for each person in his quartier bringing one bundle of millet stalks for the fence, Hadiza and Lola are the matrones who will be trained in Gotheye, etc.)
- Recap the topics and decisions made before closing the meetings and set a time for the next meeting if necessary.
- Thank everyone for coming and wish everyone blessings and good luck.

C. Follow-up of meeting decisions

Suivi or follow-up is an essential part of village meetings and organization. If "responsables" have been designated to make bricks for the latrine, bring gravel to the well, or water the community garden, check with them a few days later to see how the work is progressing. If necessary , hold another meeting to continue discussions and verify progess.

Vocabulary List

People in the village

chief of the canton	amirou	le chef de canton
chief of the village	mai-gari	le chef du village
first aid worker	secourist	le sécouriste
head of the women	persident	la présidente des femmes
head of the young men	samari	l'association de jeunesse
important (big) people	dotijey, arkusey	les vieux sages
important (big) women	gabdey/weyborey	les femmes sages du village
midwife (traditional)	hayandiko	la matrone
public/people in general	jama	la foule
town crier	jasare	le griot/l'anonciateur/le rassembleur

Places in the village

front of the chef's house	maigari kwara	le cour du chef du village
mosque	jingarado	une mosquée
neighborhood	kuray	un quartier
town square/open area	foori do/fori batame	la place publique
young people's building		MJC

Other words

discussion	fakare/kakaw	une discussion/consultation
meeting	marga	un réunion
questions	hayyan	les questions
suggestions	yamaryan	les suggestions

Times of day

mo bo	early early morning
alfazar (prayer of 5:00 am)	also time of day around 5:00-7:00 am
susubey	morning
wete	around 10:00 am
zaari	around noon
alula (prayer of 2:00 pm)	also time of day around 2:00
wicira	after 2:00 pm
alasar (prayer of 4:00 pm)	also time of day around 4:00
almaari (prayer of 7:00 pm)	also time of day around 7:00
cini	after 7:00 pm
saafo (prayer of 8:00pm)	also time of day around 8:00
cini	after 11:00 pm

Time expressions

habu fo kan bisa mansan cine- a week ago today
habu fo kan bisa- last week
bi fo- a few days a go
bi fo handi- day before yesterday of a couple of days ago
bi- yesterday
hunkuna- today
suba- tomorrow
suba si- day after tomorrow
ne nda jirbi hinza- three or more days from now
ne nda jirbiyan- in the next few days
kala habu fo mansan cine- a week from today
habu fo banda- next week

Days of the Week
attini- Monday
atalata- Tuesday
alarba- Wednesday
alkamisa- Thursday
juuma/alzuma/han beeri*- Friday
asibti- Saturday
alhadi- Sunday

Cultural note - Days of the week
Villagers will often associate days of the week with village markets from the area occurring on that day. For instance, the Ouallam market is on Wednesday, so you could say you want to hold a meeting on "Ouallam habu wiciri kambu" if you want the meeting for Wednesday late afternoon. There are often enough markets in the area that nearly every day of the week can be identified with some village's market day.

*Villagers also call certain larger mosques "juuma do" because men from the area come there on Fridays for the big prayer. Friday is called "han beeri" (big day) because it is the most important prayer day of the week for Muslims.

Seasons

heyni waate- the hot dry season
kaydia/korsalo waate- the rainy season
jaw waate- the cold season

Years

mannan- last year haran- this year yeesi- next year

Important Greetings

Salaam alekum	Peace be with you.
Amin. Alekum salaam.	Amin. And also with you.

Cold season

Mate hargu? (How's the cold?)	R: Ban'samay; a go no! (Good; it's there!)
Mate yeeni? (How's the cold?)	R: Ban'samay; Alwato no! (Good, it's that time!)

Hot season

Mate dungay? (How's the heat?)	R: Ban'samay; alwato no! (Good, it's that time!)
Mate wayno? (How's the sun?)	R: Tali si; a ga futu! (No problems; it's mad!)

Rainy season

Mate kaydia? (How's the rainy season?)	R: Samay no; allahamdullilahi (Good, thank Allah)
Mate haro? (How's the water?)	R: Samay-samay
Mate fari? (How're your fields?)	R: Tali kulu si.

Holiday greetings

Mate meyhaw? (Ramadan)	How's the fast?
Mate jaw?	How's the thirst?

Barka nda jiri bareyan! Greetings on the celebration
(Congrats. on the changing year)
Response: Barka si ibaar se or
A si'bar ga
Barka s'ibar se.
(these all mean: You do not greet your enemies)

Wa kay yeesi! Have a happy holiday!
Response: Yeesi mansan cine ni ce ma dira.
(May your feet still be walking this time next year)

Useful Meeting Expressions

Wa hangan!	Listen up!
Wa dangay!	Be quiet!
Iri ma sintin, wala?	Let's start, okay?
Aran gonda hayyan?	Are there questions?
Aran gonda yamaryan no?	Are there ideas/suggestions?
Wa ka iri ma fakare.	Let's discuss it.
May no gonda milia sori kan ga zankey gare?	Who has the neem branch to chase kids?
Aran ma ay Zarma cinno, wala?*	Did you understand my Zarma?
Ay man ma ni Zarma cinno.*	I didn't understand your Zarma.

*Important note: These are phrases that Zarmas will use with each other. They're different from saying that you completely don't understand, (i.e. "Ay man faham," a phrase which will almost always elicit the dreaded "Ni si wanni Zarma cinni."). Instead of bringing the discussion to a halt because they think you don't speak Zarma, "Ay man ma ni Zarma cinno" will instead just slow things down a bit and make people rephrase what they say to try and better explain themselves. This will give you a couple of seconds to regroup and get back on track.

Sample Dialogue

A day or two before the meeting:

Volunteer (Bob): Maigari, asalam alaikum.	Peace be with you.
Maigari: Amin alaikum asalam. Mate ni kani, Bob?	Amen, and also with you. How was your sleep?
B: Ban'samay, MaiGari. Mate borey?	Very good. How is your kwara family?
M: Samay dey no. Mate goy?	Fine. How's work?

B: Goyo allahamdulilahi. Mate fu?	My work is thanking Allah. How is your household?
M: Fu kulu samay. Mate n'dunya gorey?	Everyone is fine. How is life in the world?
B: Ay ga Irikoy sabu. MaiGari ni ma fongu bifo kan iri salan nda turiize goyo.	I'm thanking Allah. MaiGari, you remember when we talked about the tree work the day before yesterday?
M: Marga ra, wala?	At the meeting, right?
B: O-ho. To, alwaato no to kan ga goyo sintin, wala?	Yep. O.K. it's time to start the work, right?
M: Yadin dey no. Iri ma jin ga borey margu kan ga lasabu goyo bon. Iri ma di goy fo no borey kulu ga te.	That's right. We should first gather people together to talk about the work they are going to do.
B: To, madala. Waati fo no iri ga margu?	Alright. What time should we meet?
M: To, hambagar suba alasar jingar banda kan borey kulu fun fari. Iri ma margu alasar banda ay fuo jina.	Well, maybe tomorrow after the 4:00 prayer when everyone is back from their fields. We will meet after the 4:00 prayer in front of my house.
B: Foori do, wala?	The big open area, right?
M: Yadin no ya. Ay ga jasaray donton kwara i ma ci borey kulu se. Ay mo ga ci borey se.	Yes siree. I will send the town crier around the village to tell everyone. I will also tell them.
B: To, madala. Irikoy ma iri cebe suba.	Great. May Allah show us tomorrow.

The day of the meeting...

Bob: Jama kulu, asalaam alaikum.	Everyone, peace be with you.
Everyone: Amin, alaikum asalaam.	Amen, and also with you.
B: Aran go bani?	How are you all?
E: Ban'samay!	Good health!
B: Aran foy ga ban, dey.	May your day pass in health.
E: Samay dey no.	Good.
B: Mate goyo?	How's the work.
E: Tali kulu si, allahamdulilahi. Mate ni faro, Bob?	No problems at all, thank Allah. How is your field, Bob?
B: A go no. Ay dunguro sintin ga bosu, tubarkallah.	It's there. My beans started to flower, thanks be to Allah.
E: Ni ga wanni sohon! Ni te Zarma, fa!	You understand it now! You're a Zarma!
B: Haba? Ba bundu ga gay isa ra a si te karay.	Really? Even if a stick is in the water a long time it doesn't become a crocodile.
E: Manti ni ma? A ga ma sohon.	Did you hear that. He hears Zarma now.

B: To, wa hangan ga ma. Hunkuna no iri margu ga salan turi kan go pepinyero ra bon. Alwaato to kan ga'l hanandi. Iri ma goyo fay danga borey ma di may da may ga goyo te.

Alright, listen up. Today we got together to talk about the trees in the pepiniere. The time has come to water them. Let's divide up the work so everyone will see who will work.

...this goes on and people discuss...
Recap:

B: To, jama kulu ma hangan. Sanni wo ne a ga boori gumo. Aran ne ha: Halimatou satta ga I hanandi attino nda habu hanne kulu. Chaibou satta ga I hanandi alarba nda asibto kulu, wala?

O.K., everyone listen. This discussion is really good. You all have said: Halimatou's group will water them on Mondays and market days. Chaibou's group will water them on Wednesdays and Saturdays, right?

E: Yadin dey no.
Yep, that's it.

B: To, madalla. Sanno wo te ga boori, fa! Aran gonda hayan? May no gonda yamaryan?

Alright. This discussion went well. Do you have any questions? Any body have any suggestions?

...questions and suggestions...

B: To, iri ma margu koyne kala habu fo mansan cine. A ma te almaro jingar banda. Irikoy ma albarka dan. Irikoy ma saye te. Irikoy ma te I hanno wo ne. Irikoy ma iri no alomar kuku.

O.K., then we should meet again a week from today. After the 7:00 prayer will be good. May Allah give us prosperity. May Allah bring us luck. May Allah bring us goodness. May Allah give us long life.

E: Amin, amin.
Amen, amen.

Community Work Activities

Committees are very important parts of community work. Their organization will be largely dependent on the village's decisions and choices, but in general, most committees will have:

- a president- the "responsable"
- a vice-president- stands in when the president is not around
- a secretary- to keep meeting minutes, record the group members' names, keep records of members taking out loans
- treasurer- in charge of the money (one of the 3-4 keyholders in most cases), gives out loans, collects payments and interest.

Committees can be formed for a variety of reasons, some of which include:

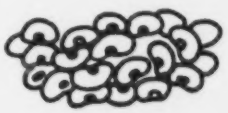
village health committees	savings and loans (caisses)
pump/well maintenance	gardening groups/co-ops
seed loan groups/coops	parents' associations at schools
sheep loans	millet grinder maintenance

It is best to allow participants to choose the committee members and officers themselves, but be wary when politics enter into the discussion. Try to keep the group as non-partisan as possible.

The following are examples of three types of committes that could be set:

1) a seed loan committee
2) a caisse project (savings and loan)
3) a pump repair project

Seed Loan Committee in Kwara Teji



Vocabulary list

agriculture agent	gomnanti heyni alfari	un agent d'agricole
association	kunda, satta, komitey	une association
bowl used as local measure	nesiji/tasa/tiya	une mésure
(half of the local measure)	nesiji/tasa jare	une demi-mésure
to distribute	zaban	distribuer
fields	fari	des champs
harvest	wiyan	la récolte
to harvest beans	dunguri kuyan	la récolte des niebe
hectare	ektar	une hectare
install	sijiri	installer
interest	heyni nda hari/riba	l'interet
loan	garaw	un credit
manure	birji	le fumier
improved, i.e. chemical fertilizer	anasara birji, angray	l'engrais
pesticide	safari/posiney	l'insecticide
to plant seeds	duma	sémer

to prepare the fields	zooru/habu	défricher
profit	riba	le profit
to remove the husks	sasabu	décortiquer
sack	saku	un sac
seeds	dumize	les graines
(improved seed varieties)	anasara dumizo	les graines ameliorés
to weigh	nesi	péser

Kwara teji wayborey gonda kokari gumo. I ga wani goy. Haran jiro I na komitey sijiri i bon se.
Nodin volontero Rukia a na dunguri zaban I se kan fun gomnanti alfaro do. I na satta te ingey gamma ra. Satta kulu gonda wayboro taaci. A binde satta kulu gonda jine borey. Amirou mo na gaaksinay dan I ga. A zaban I se fari fo.
Hadiza, Belakisa, Howa, Dari nda Fati ya jine borey no.
Satta kulu gonda ektar fo.
Rukia na dunguri tasa gu fay satta kulu se nda anasara birji saku fo. Kaydiya banda, nda Irikoy ba, satta kulu ga bana dunguro tasa iyye nda jare da birji noro.

The women of Kwara Teji are quite motivated. This year they installed a committee among themselves. The volunteer there, Rukia, brought improved beans from the agriculture agent. They divided into groups with five women each. Each group also had a leader. The chief of the canton also helped. He gave them a field to plant. Hadiza, Belakisa, Howa, Dari and Fati Each group had one hectare Rukia gave each group five bowls of beans and one sack of fertilizer. After the rains, if Allah wills it, they will repay seven and a half bowls of beans and the fertilizer money.

Wayborey bumbo na goyo kulu te. I na faro hanse. Wodin banda I na dunguro far. I na safari dey kan ga say-say dunguro ga nda milia sori wala habirji.

The women did all the work themselves. They prepared the field and then cultivated. They bought pesticide at the market to put on them a neem branch or traditional broom.

Haran jiro hari kan gumo, tubarkallah. Dunguri te hala manti kaina, allahamdulilahi.

This year it rained a lot, thanks be to Allah. The beans were really good, thank Allah.

Waato kan borey ga dunguri ku, I na dunguri sasabu. I na dunguri nesi. Hadiza satta du tasa weyhaku-cindi-hinza. Belakisa sata du tasa weydu-cindi-iddu. Howa satta du tasa weyiye-cindi-gu. Satta kulu bana dunguri tasa iyye nda jare. I na dunguri gisi mai-gari kwara. Wodin no I ga nan

When they gathered up the beans they cleaned them and weighed them. Hadiza's group got 83 bowls. Belakisa's group got 66 bowls. Howa's group got 75 bowls. Each paid back 7 and a half bowls and stored them at the chief's house. That way they will have beans to plant next year.

I ma du yeesi dumize.
Satta kulu mo na birji noro bana. Yadin ga yeesi I ga hin ka birji dey koyne nda noro din. Cindo I ga'a fai ingey gamma ra.

Each group also paid back the fertilizer money. Then they will be able to buy more fertilizer next year. They divided the rest of the beans among themselves.

Wayborey kan goyo te ma kani gumo zama I du fondo kan ga goy hanno te. A binde I du riba. Rukia na wayborey ha ifo no I ga te nda ingey noru. Wayboro fo ne a ga ceceyna nera. Wayboro fo ne a ga gisi dunguri ga te inga se jiri nwaari. Wayboro fo ne a ga nera ga dey zara!

The women who did the work were quite happy because they had a "road" to do good work. Also they profited from it. Rukia asked the women what they were going do with the money. One woman said she was going to sell bean cakes. One woman said she was setting them aside to feed her family. Another said that she was going to sell them and buy a pagne!

Caisse Project in Darey

account	jisiri	une compte
business	harkay	les affaires
cheap	fala	moins chér
commerce	nerante	le commerce
expensive	cada	chér
keys	safiize/kleiize	les clés
loan	garaw	un credit
money box	kais	une caisse
profit	riba	un profit
prosperity	albarka	la prosperité
traditional credit system	adashé	une caisse traditionelle

Committee Members

president	presiden	la présidente
vice-president		la vice présidente
secretary	hantumkô	la sécretary
treasurer	boro kan ga nooru jisi	la trésorière

Kwara kan I ga ne a se Darey go Nijer labu ra. Kwara borey nodini gonda adashé kan ga borey margu. Weyborey gonda boro waranka adashé satta ra. Hadjo Hanza no te presiden. Fati Hamadou no te hantumkô. Mariama no te boro kan ga nooru jisi.

There is a village called Darey in Niger. The villagers there have a traditional credit system. The women have a system like this with 20 women. Hadjo Hanza is the president. Fati Hamadou is the secretary. Mariama is the treasurer.

Habu kulu adashé ga weyborey margu. Weyborey kulu na waranka no. Habu kulu weyboro fayante fo ga zangu taaci ta zama kan weyborey waranka ga waranka-waranka margu, a ga zangu taaci te. Adashé ga hin ka nooru garaw mo. Hala weyboro ga ba garaw, a ga ci satta se. Hay foyan se kan weyborey ga ba garaw ga zimbi. Weyboro fo kan ma Gumbi ga ba a ma ceceena nera. Howa ga ba garaw dunguri da mo nerante se. Meyhow ko-ko nerandi se Zongo ga garaw za. I kulu gonda albarka. Weyborey mo ga hin ka garaw za nerandi se. Jamma na garaw za tasayan, kawra yan nda zarayan, ga nera habu ra. Kadija ga kongu dey ka tangaray kayi.

Each week the women's group meets. Each woman gives 100 cfa. Each week a a different woman gets 2000 cfa since there are 20 women giving 100 cfa each. This association also gives loans. If a woman wants a loan, she tells the association women. There are many reasons why women want loans. One woman named Gumbi wanted to sell bean cakes. Howa wanted a loan to sell rice and beans. Zongo wanted to sell koko during Ramadan with the loan. They are all profitable. Women can also take a loan to start sell things. Jamma took out a loan to buy bowls, spoons and pagnes to sell in the market. Kadija will buy palm fronds to weave into mats.

Adashé noru se I gonda kais saafanté. A gonda saafize hinza fayante. Yadin ga hala boro fo ga ba a ma nooru jisi wala garaw za a hima ga borey hinza ceeci kan ga'a feeri cere banda. Boro follon si du ga'a feeri inga hinne se. Jine borey hinza ga bisa boro follon.

They have a locked box for the traditional caisse money. It has three different keys. That way if someone wants to deposit money or take out a loan they must look for the three people to open it together. One person cannot open it by himself. Three

Adashé weyborey ikulu yedda. Ingey adashé sobey ga te ka boori, tubarkallah. I di a nafa.

"responsables" are better than one. The women all agreed to this. Their caisse continued to do well, thanks be to Allah. They saw its usefulness.

Well Repair Committee in Bani Zoumbou

Vocabulary list

to break down	hasara	gâter
to dry up	koosu	koosu
pump	pompi	une pompe
traditional well	za don deyo	un puit traditionel
well	dey	un puits
workplace	goy do	un bureau

Bani Zoumbou kwara ra hari ga sandi. Za gayyan I na deyo fansi gao bero do, ama sohon a koosu. I gonda pumpi mo amma a hasada za mannan. Za don deyo go kwara ra, ama haro si boori gumo. Borey humburu nda doorize kan go a ra. Kwara kan I ga n'a se Garbey Kaina gonda dey hanno amma a si kala kilometer gu nda Bani Zoumbu. Wodin a ga tin wayborey se.

In the village of Bani Zoumbu it is difficult to get water. A long time ago they dug a well by the big gao tree but it dried up. They also have a pump but it broke last year. They have an old well in the village but people are afraid of diseases in it. A village called Garbey Kaina has a good well, but it is 5km away from Bani Zoumbu. This is difficult for the women.

Kwara borey koy ingey volontero do, Bachirou, ga fakara te a se. I na Bachirou han hal fondo go no kan ga pumpi hanse. A ne i se fondo go no, amma kala I ma lasabu ga boori a bon.
Noru go no kan ga pumpi hanse amma I ma lasabu han kan no I ga

The villagers went to the volunteer, Bachirou, to discuss things. They asked if there was a "road" to fix the pump. He said there was a way, but they had to think about it carefully. There was money to fix the well at first,

te hala pumpo ga bogu koyne. Man no I ga du noro nda volontero si no? A binde, I ma komitay sijiri ga gayi noru marganta.

but they must think about what they will do if the pump breaks again. Where will they get money if there is not a volunteer? Also, they should install a committee to hold the money they gather together.

I ma sintin ga lasabu mate kan no borey ga hari bana nda. MaiGari na jin ga ci borey ma bana zongu fo handu kulu, amma borey man yedda. I ne a ba gumo. A ga dogon hala I ga weygu bana habu hinka kulu. Borey kulu yedda nda wodin.

They started to think about how people who used the water would pay for it. The chief started by saying that everyone should pay 500cfa each but they didn't agree. They said that was too much. It would lighten things if they paid 250cfa every two weeks. Everyone agreed.

Bachirou man ma tali kulu kan a koy a goyo do Niamey zama kwara borey na goyo hanse hala a ma bori. Bachirou da kwara boro fo, Idrissa, I koy nan kan pumpi hanseyan jiney nerate go. Yadinga kwara borey bumbo ga nongo bey mate kan i ga ka pumpi hanseyan te. Kwara ra i suban boro hinza ga sijiri komitey ra. I na pumpi noro kulu dan kais saafante ra. Komitey boro hinza kulu gonda saffizo kan ga kaiso feri; safiize kulu fay nda care. Yadinga boro fo hinne si du ga feri. I borey hinza hima ga'a feri cere banda. A te I bori kwara borey se. Borey kulu faham harkay zama komitey goyo nda ingey kwara harkay no ga saba. Kwara kulu gonda inga gornyo fooruyan.

Bachirou didn't have any trouble at the bureau in Niamey because the villagers had prepared the work well. Bachirou and a villager named Idrissa went to a place that sells pump parts. That way the villagers themselves will know where to go to fix the pump. Back in the village, they chose three people to install on the committee. They put all the pump money in a caisse and closed it up. All three committee people have keys to open the caisse, but the keys are different. Therefore one person cannot open it by himself. All three people must open it together. It worked well for the villagers. Everyone understands this committee because it is the same as their normal village business. Each village has its own way of doing things. [lit. Each has its own way of cutting up a chicken.]

PROVERB BOX

Kwara kulu gonda inga gornyo fooruyan. Each village has its own way of cutting up a chicken.

Each village has its own way of doing business.

Rabbit Raising

Rabbit raising in Niger can be profitable, profitable in that people can sell them, but more importantly people can eat them. Per edible portion of young tender uncooked rabbit, it is higher in protein than goat, lamb, veal, pork and turkey meat. Rabbits are fairly simple to promote:

- They require little space;
- They eat food which is cheap and available;
- If kept clean, they generally do not have disease problems;
- Their manure is great for gardening;
- They multiply rapidly;
- Their hides can be cured and used.

Getting Started

Depending on what impact you are looking to make and the amount of people interested, you can then decide on what type of project you want to start. Before starting a rabbit project as with any project, EVALUATE the situation first. Here may be a few useful questions:

Have rabbits every been tried in the village before? If not, why? If so, talk to those people and ask them what worked and what didn't.

Is it appropriate for the area/village?

Is there a good food source in the area?

What type of housing with they use?

Is there a preference (superstition) in the hair color of the rabbit?

Housing

There are three types of rabbit houses I have seen in Niger which seem to work, and each has advantages and disadvantages. By no means are these three types the only types. Don't be afraid to experiment.

Wire (off the ground) cages- clean, long-lasting, but very expensive.

Hausa bed types- cleaner because it's off the ground, cheaper than wire cages and many villagers know how. Yet if the rabbits are nutritionally unsatisfied, they may chew the wood.

Traditional clay brick types- cheap and all villagers can do it, but hard to keep clean and dry.

Selection

When selecting rabbits, look for:

- big ears
- females with eight healthy nipples
- feet with lots of hair (underside)
- active and alert
- dry nose
- straight teeth (even bite)
- history of large litters in the family

Feeding

Rabbits are nocturnal. They will eat in the day but prefer night eating. They need CLEAN water and food, ideally grasses off the cage floor (ground) and millet bran given in heavy dishes.

Rabbits will eat almost anything a goat will eat. Main foods give in this area are millet bran, morning glory, bean hay and peanut leaves.

Breeding

Six months is the ideal age for breeding. If the doe is not physically mature when she gives birth, she may be a nervous mother and may thus eat or stomp her babies. She most likely will not recover as fast as a mature doe and her body will not grow much bigger after that.

Males and females should be separated so random breeding does not take place. When you want the doe to become pregnant, *TAKE THE DOE TO THE BUCK*. Females can be territorial and may even kill the buck if the buck is taken to the doe. Breeding will also take place faster.

Gestation is from 28-32 days. Be careful of crossing bloodlines; inbreeding can cause small litters and small animals.

Kindling

Put in some type of nest box.

The ideal litter is eight babies (here in Niger, eight is a good size litter; in the States it is average). For first-time birthing, the doe usually has fewer. Don't handle babies at first. Wait a day or two (if your rabbit is not used to your smell). But DO check the litter because if one of the babies is dead (which is not unusual), it will kill the rest of the babies if the body is not discarded.

Weaning

Days 1-10--eyes are closed, pretty hairless;
Days 10-11--opening of eyes, have fur;
Three weeks--start to hop out of nest box;
Eight weeks--generally the appropriate weaning time, yet in Niger where growth is less rapid, you may want to wait a little longer.
At separation, breed the doe again (if she is healthy).

Problems

Don't pick rabbits up by their ears!! It can damage the inner ear which can kill a rabbit.

Heat--Keep your rabbits from getting heat stress:

- Buy a clay pot, fill it with water. Evaporation will make the pot cold, then the rabbits will rest against it (bury the pot in sand about an inch down in a traditional clay cage).
- In wire cages, cold rags for them to rest on will cool them down.
- If you think the heat is going to kill your rabbit (it can happen) dunk the body- not the head- quickly into a bucket of water. The rabbits will hate it!!

Crowding

Overcrowding is a huge problem here. Promote separation, especially mature bucks and does as even mature does will fight and kill each other's babies.

Overcrowding also leads to random breeding, dirty cages, low birth rates, small babies, disease, and generally stressed animals.

Diseases

Here in Niger people often don't have money to buy medicine and often there isn't medicine to buy. Prevention is the key:

- Keep cages clean.
- Select healthy animals.
- Separate the sick from the well.

Most of the projects I have seen here are with men or male children. The main reason for this is that women don't generally build houses. I have, however, seen women successfully raising rabbits (other people built the houses). I think this could be an excellent women's project if you can sponsor the building of the rabbit houses.

Resources

There have been some rabbit projects within the last couple of years that vary vastly (AFSI Torodi- Hamiltons 1993-1995, and AFSI Ouallam-Mitchell 1993-1995). It may be helpful to read the final reports and pick out helpful hints and details.

Other resources include the Service d'Elevage, rabbit slide shows (see APCD-AFSI), other volunteers, the resource center at the bureau, and of course knowledgeable villagers.

A Note On Morning Glory

People may want to think about the environmental impact of collecting morning glory. Morning glory is a good erosion control crop which other animals do not eat. If not completely pulled up by its roots, it will continue to grow. Also, the pushing of other possible fodders may be helpful.

Rabbit Vocabulary

bean hay	dungari kopto (bundu)	les feuilles seches des haricots
cage	fiti	la cage
clay pot	fobu/kusu	la canari
female rabbit (doe)	way	la hase
give birth	hay	mettre bas
male rabbit (buck)	arrou	le lapin male
mating	itegee (hidgi)	
millet bran	dobou	le son
morning glory	talahana	
peanut hay	kolanso kopto/damsi kopto	les feuilles seches de l'arachide
rabbit	tobey	le lapin
rabbit house	tobey fiti	la cage des lapins
wire fencing	grillage	le grillage

Youth Groups

Forming a youth group can be very rewarding. It is a great way to enlist help in reaching your project objectives, as well as to offer something to the children of your village. Children here participate in few organized activities, and involvement with a youth group can be a very special opportunity for them.

The themes of possible youth groups and particular activities are endless. Some ideas for youth group activities include:

- agriculture (pepinieres, gardens, etc.);
- wood and soil conservation (improved cookstoves, DRS, tree planting);
- animal husbandry (goats, ducks, rabbits, etc.);
- health (children trained as village health scouts);
- creative (theater, singing, puppetry, painting, poetry);
- skills (mat weaving, sewing, embroidery, knitting);
- occupational awareness (visits to the watch maker, the tomato seller, the tailor);
- field trips (to the big town, the market, the pond);
- games (musical chairs, cards, jump rope, blind man's bluff);
- cultural activities (World Wise Schools exchange, American food, pictures, songs, games, etc.).

In forming a group, you should first follow village protocol (see Village Meeting section). You should include any host country national or service agent who may help with the group (school director, parents, PTA, dispensaire, staff, etc.). Logistically there are many decisions to make:

- How will you choose the children? (lottery, village selection, personal selection);
- How many children? (under 20 is manageable);
- Of which age? Male? Female? Mixed? Literate or non-literate?

All different kinds of groups are appropriate depending on your interests, your project assignment, your village needs and the kinds of activities in which the children will be involved.

You will need to find an appropriate meeting place--a school, a dispensaire, a big tree, your own concession.

You will need to decide how often to meet--once a month, four times a month, every day.

When you will meet? What will be the duration of the group--cold season, six months, a year?

Club fees, club uniforms, accomplishment patches and rewards are all possibilities. Included here are examples of two different youth groups formed by volunteers in Niger.

4H CLUB TALKADABEY- Lauren Mitchell

I started a 4-H type youth group in December 1993. I met with the children of my village every week for six months . Each month we had a new topic. The 18 children were between the ages of 8-14, male and female, students and non-students.

The different subjects included goat raising, cookstoves, pepiniere work, crafts, nutrition, duck raising, career American exchange and land restoration. Besides field trips we had guest speakers, used pagivoltes and had tons of hands-on learning.

Alzouma, an 18-year old villager, was the co-leader. He helped at all the meetings and led meetings while I was absent.

Each child received a vest, which I had made by a Ouallam tailor. After the successful completion of a subject, the child would receive a merit patch, each patch having a picture of the subject completed. This was done to keep up motivation. If the child did not satisfactorily complete the subject, he/she did not receive the patch. They also all received club name patches.

The children were selected by a random name drawing. If the name choosing is not random you may have troubles with villagers who are angry because their children did not "get in".

After those six months were over, I started the same type of group in my hamlet village. This youth group lasted five months and met only twice a month.

I think youth groups are excellent in many areas here in Niger, where children do not have other forms of recreation. While learning a skill or broadening their horizons, it gives them something to be proud of and look forward to. By mixing girls and boys, I had also hoped they would realize males and females can work well together. These children will hopefully use what they learned and pass it on to their peers as well as their elders, and some day their own children.

General suggestions

- Keep meetings as short as possible yet still get the information across.
- Be sure the "child choosing" is completely fair.
- Have a quiet place to conduct meetings.
- Don't start projects before your language is relatively good. You are the leader and if the children cannot understand what you are saying it is not only frustrating for you, but they will lose interest fast.
- A dedicated co-leader can help you out a lot.
- This project takes a lot of planning. Plan meetings times (length) that you can handle according to your own schedule.

HEALTH SCOUTS OUALLAM- Shannon Johnson

Health Scouts Ouallam was a year-long program with 20 CEG students, all girls, ages 13-16. The scouts were chosen by the school directors. Meetings were held weekly at the PMI, assisted by the PMI staff and two CEG teachers. Dues for each meeting were 50 cfa. All girls received uniforms--the vaccination pagnes and shirts. The club has five areas of focus:

- health (family planning, hygiene, sanitation, malaria, etc.);
- nutrition (malnutrition, vitamin A, rabbit raising and gardening for nutrition);
- environment (stoves, trees);
- cultural (world map, World Wise Schools exchange);
- creative (singing, painting, embroidery, theater).

The correspondence with World Wise Schools was very successful. The scouts also enjoyed performing American songs for the villagers and visitors. As health agents combating malnutrition and malaria, for example, they were enthusiastic and effective.

COMMENTS PAGE

LET US KNOW. IF THIS MANUAL WAS HELPFUL, MARGINAL, OR EVEN OBSCENELY DEFICIENT OR LACKING, PLEASE TELL US ABOUT IT. ANY TIPS, POINTERS, COMMENTS, OR SUGGESTIONS WOULD BE INCREDIBLY WELCOME. THIS MANUAL IS FOR YOU, THE VOLUNTEER, SO PLEASE LET US KNOW WHAT WOULD HELP YOU.

WHAT DO YOU FIND THE MOST USEFUL (PLEASE GIVE CONCRETE EXAMPLES) IN THE MANUAL?

WHAT DO YOU THINK IS NOT PARTICULARLY USEFUL OR COULD BE TAKEN OUT?

WHAT CHANGES COULD BE MADE? WHAT THINGS COULD BE ADDED?

VARIOUS AND SUNDRY ADDITIONAL COMMENTS...

PLEASE SEND THIS PAGE OR OTHER SUGGESTIONS TO:

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AND THEY'LL BE PASSED ON. MUN GODE, FAI IRI SABU. AND TAKE GOOD CARE OF YOURSELVES.